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OR A

CRITICAL ESSAY

ON

THE VERSES

Criticon Febrium:

OR, A

Critical ESSAY

ON

FEVERS.

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Johannes Bateman, *Præſes.*

Sir Hans Sloane *Bar^t.*
Guil. Gibbons,
Humph. Brooke,
Jacobus Ladds,
} *Cenſores.*

Datum in Comitiis Cenſoriis 4^to. *Menſis Maij,* 1716.

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Criticon Febrium:

OR A

Critical ESSAY ON FEVERS;

WITH THE

DIAGNOSTICKS and METHODS of CURE, in all the different Species of them.

To which is prefix'd

A Large INTRODUCTION concerning the USE and ABUSE of *Mathematicks* in PHYSICK, and the BASIS on which *Indications* are founded: Where also the *Euodia Medicorum* is annex'd.

By EDWARD STROTHER, *M. D.*
A. Coll. Christ. Cantab. & Coll. Med. Lond. Reg.

LONDON:
Printed for CHARLES RIVINGTON, at the *Bible and Crown* against the North-Door of St. *Paul's*, in St. *Paul's Church-Yard.* 1716.

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To His EXCELLENCY

Don Iſidro Caſado

Of *Azevedo* and *Roſales*;

Marquis *de Monteleon*, Viſcount of *Alcazar Real*, one of His Moſt Catholick Majeſty's Supreme Council of the *Indies*, Gentleman of the Bed-Chamber, and his Plenipotentiary at *London*.

May it pleaſe Your EXCELLENCY!

THE Honour I have of being Ally'd to Sir *Francis Arther* of *Madrid*, having readily procur'd me your *Excellency*'s Favour, I know not whether I am moſt to admire

mire *your Lordſhip*'s Good-Humour or Friendſhip to my Relation; ſince, as a Stranger, there were Grounds enough to have deferr'd complying to any Requeſt till farther Inſpection.

To give any *Encomium* upon your Excellency's good Parts, would be ſomewhat extraordinary indeed, when I conſider that YOU are ſent hither as *Plenipotentiary* from the Court of His Moſt Catholick Majeſty, where Wiſdom and Politeneſs are diſtinguiſhing Characters that Auguſt Aſſembly was always allow'd to inherit; and that YOU are to tranſact the Affairs of that wiſe Nation, with the moſt ſharp-ſighted Court in the World. Therefore I ſhall only ſubſcribe my ſelf,

Your EXCELLENCY's

Moſt Oblig'd,

Moſt Obedient,

and Moſt Humble Servant,

Edward Strother.

THE PREFACE.

THE TREATISE *I now venture to Publiſh, was not intended for the Preſs, when I firſt Wrote it; tho' I ſhall not mention the Reaſons that induc'd me ſo to do. If I advance Facts, and give Reaſons for my Procedure; if neither the Undertaker nor Publick loſe their Pains, or think their Monies ill ſpent; that will be a ſufficient Recompence for my Endeavours. If the World ſuffer not by me, I may, if Leiſure allow, give them farther Proofs of my Well-wiſhes.*

The Book is ſwell'd far beyond what I at firſt deſign'd; for I was not aware of many Circumſtances which occurr'd, when I review'd my Papers: But I hope the Peruſers will find their

Account

Account in what I advance, having endeavoured to ſay as little on every Paragraph as the Nature of the Subject would allow. I did not think it neceſſary to expatiate upon the uſual, and, I think, uſeleſs Diviſions of Fevers; *in which much Time, I fear, has been ſpent by many, to little Purpoſe. The Task has been undertaken by many Learned Pens, and many more have fallen ſhort in their Aims; the former have eterniz'd their Names, and obliged their Poſterity with laſting Monuments, on which are engraven the Methods to be truly ſerviceable to Mankind; and the latter are not unworthy Thanks for their kind Endeavours, in communicating their Thoughts for the Publick Good, altho' they have not wrote ſo learnedly; for tho' they have fail'd in Style and Thought, if they have ſpoke Facts, their Writings deſerve a grateful Return.*

However, I am ſure I have built the following Tract entirely upon many Years Obſervation; and they who will cenſure, may go Scot-free; for I am not at leiſure to return Anſwers to ungenerous Criticks, nor ſo obſtinate as to perſiſt in an Error, when I am once appriz'd of it.

The Language was the Choice of the Undertaker, not my own; and yet, I believe, 'twill fail of being ſerviceable to any who have not ſome competent Knowledge in the Materia Medica; *and this I had in View, to prevent too much medling in ſo grand a Concern, as is the*

Jewel

Jewel of Life: And as the Circumstances of too many will not allow of a regular Attendance from the Beginning; so some Measures chalk'd out for the Use of those Gentlemen who are pleas'd to favour me with a Call in to their Patients Assistance, when the Disease is much advanc'd, will give Sanction to the Plainness of the Style. If it contain any Errata *beyond the Literal, nothing can atone for it.*

As far as I have had Opportunity to observe, more than the Third part of Mankind fall by this dismal Distemper; and the little Leisure there is to amend any Mistakes, committed at the Commencement of a Fever, in all the subsequent Stadia, *ought to make the Persons that Practise seriously to consider what sort of Evacuation ought first to be attempted, and how far the Strengths of the Patient will allow them to be continued or reiterated: For to speak justly,* on these *depend the whole Art of Curing Fevers; and the Neglect or Preposterous Use of them, have convinc'd too many of the Truth of what I advance, since Alteratives produce their Effects but slowly.*

I shall add no farther, than to tell you, that I have avoided to advance any Notion which did not square with the Practice; nor any Practice, but what has all the necessary Distinctions I could think of use to assist the Judgments of those whom Custom has prevailed to call first,

in order to prepare a Patient; which is sufficient to denominate this Undertaking generous.

The Introduction *was not intended for the Press so soon, but that the Book was too small of it self: What Faults may be found in it, I hope will be excus'd, it being only designed to sketch out a farther Design I have in publishing a large Collection of a System of Practice, modell'd in an uncommon, but useful Order. I must here return publick Thanks to the Honour'd* Sir Hans Sloane *Bart. M. D. for his having comply'd to revise my Papers so readily, as also for his farther unparallel'd Civility in ushering 'em into the College to have 'em Approv'd by that* Learned Body; *so that not content to let me have his own Private Judgment, he was willing to favour me with it, as in a Publick Capacity.*

THE

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ERRATA.

render themſelves unfit for common Converſation? Leave this to the Profeſſors of it; but learn from them what is uſeful to your own Buſineſs, and leave the Remainder to themſelves. And whenever you have learn'd what you would be Maſter of, remember not to be ſo proud of it, as to endeavour to extend your Part of the Knowledge to what it concerns not, or draw Concluſions pernicious to Mankind from thence. If this were not too common a Crime, I ſhould be ſorry to mention it: But having undertaken to convince the World that this is too frequently done in a Matter ſo ſerious as Life and Death, I leave it to its proper Place to be diſcuſſed.

I would therefore have the *Merchant* perfect in his Numbers, and all the Parts of Arithmetick belonging to his Trade; for without it he muſt neceſſarily ſtarve himſelf and Family; the *Navigator*, without his Trigonometry, is a ſorry Friend to his Merchant; the *Eſſayer*, without his Specifick Gravity, or the common Method of Eſſaying, is an Enemy to the State; the *General Officer* fails in one of the uſeful Parts of his Duty, without the Art of Embattelling; the *Gunner*, if he is ignorant of the Elevation of his Piece, or does not know that Flanking is to a direct Shot, as 3 to 1, will not perform the Duty that is juſtly required of him from his General, nay, his Country. What does a *Fortificator* without the Knowledge of his Angles of Defence, but dupe his Prince, and expoſe his Subjects to Ruin and Deſtruction? What Value is the *Miner* of to his Maſter, who neither knows the Laws of Hydroſtaticks as to Levelling, nor the Knowledge of Powers as to Lifting? And therefore no Wonder ſo many are chous'd out of their Eſtates. What Acres of Ground do the poor Tenants pay for, they never enjoy, whilſt a *Common Meaſurer* encreaſes the Degrees in his Theodolite, to flatter his

Gentleman

Gentleman into a Belief that he enjoys double the Number of Acres he really does, and to engroſs a few Pence into his own Pocket? How uſeful are the Arts of making and framing the ſeveral Sorts of *Lens's*, to diſcover the Figures of Bodies, for the Short-ſighted, for the Old, for the Sailor, and for many other Uſes? Should I expatiate more upon this Affair, a Section would ſwell into Volumes; which is far from my preſent Purpoſe, having no farther Deſign in this Section than to hint at the Uſe of the Mathematicks in General; which I believe I have ſufficiently done, when I have let you ſee how many Affairs of great Moment 'tis abſolutely neceſſary to.

SECT. II.

Of the Uſe of the Mathematicks, and Experimental Philoſophy, in the Knowledge of our Human Bodies; and of ſome Data *from the ſeveral Branches of it, drawn into Uſe.*

I AM not of ſo harſh a Diſpoſition, as not to accept of ſeveral *Data* from the Mathematicians, which, it is to be own'd, are prettily enough adapted to the Purpoſes they demonſtrate them for: But I am of Opinion, that it is an affected Shew of Learning, to demonſtrate theſe Truths in ſuch a Manner, as that a Book of Phyſick, ſave its Title, would now appear rather a Point of Mathematicks diſcuſſed, than any uſeful Diſcovery in the Art of Healing; I believe I need not be at the Pains to convince the Peruſer of our daily Treatiſes in uſe of late, where they will find Inſtances in abundance; where, after Sir *Iſaac Newton*, Dr. *Halley*, and the *Philoſophical Tranſactions* are rifled, they gravely

recite a few Remnants from ſome Ancient, and ſo draw their Concluſions to a dangerous Purpoſe; of which more anon. I ſhall recite ſome of thoſe *Data*, which need not be demonſtrated, but ſuppoſed: And whoſoever deſires them proved in a Mathematical Manner, would do well to conſult the Authors they are borrow'd from, at their own leiſure Hours.

In every Fluid there is a Gravitation and a lateral Preſſure, which is perpendicular to the Tangent of the Circle.

Hence 'tis concluded, that the Blood in our Arteries and Veins preſſes downwards and ſidewiſe; or, as the learned *Bellini* has it, the Blood's Motion is Longitudinal and Latitudinal. From this lateral Preſſure it happens that our Veſſels are Circular; and as the Veſſels are of that Form, all its Ramifications are of a ſimilar Shape; and as the Glands are but Complications or Contortions of Arteries, they are of the ſame Shape, and alſo their Orifices.

The Preſſure of the Incumbent Fluid upon a Solid, is in Proportion to the Altitude; or, as Dr. *Wallis* will have it, *The Moments of a Fluid preſſing upon a Fund, are a Rectangle under the Quantities of Matter and the preſſive Velocity*; which is Sir *Iſaac Newton*'s Law of Motion, *That Moments are equal to a Rectangle under the Celerity and Quantity of Matter.*

Hence may it be concluded, that the Blood's producing any Effects on the Solids, ſuch as the opening Obſtructions in the Nerves, or elſewhere, muſt be an Argument of its Quantities being encreaſed, or its *Pondus*; or that it is ſtock'd with volatile Salts: By either of which the Obſtruction is dug down, and the Nerves freed from their *Infarctus*. Hence alſo may be drawn the Reaſon of

Hæmorrhages,

Hæmorrhages, which, by the Quantity of Blood, either endanger a Rupture; or by its ſwift and nimble Circulation, does equally, by its Intumeſcence or Percuſſion, or ſome other Effect of its ſwift Motion, rend and tear the ſlender Orifices of the Veſſels, and ſo occaſions a Flux, which bears a Proportion to the Degree of its Motion; or the greater the Quantity is, or the more ſwiftly the Blood moves, the more dangerous are the Symptoms produc'd. 'Tis thus that Bodies under Water are conſiderably more preſs'd on than in the Air, becauſe Water is to Air as 800 to 1; and the Sea-water is heavier than common Water. Hence 'tis obſerv'd, that the Cork will be preſs'd into the Bottle, when 'tis plac'd deep into the Sea.

Fluids running from a larger Syphon into a leſs, the Liquids run with a greater Velocity in the leſs Tube: But if the total Sum of the Orifices of leſs Tubes be more numerous than the Area *of the tranſverſe Sections of the greater, then the Fluids run ſlower in the leſs Tubes.*

Hence it is concluded, that if all the Orifices of the Capillary Arteries were (put together) leſs than the *Aorta*, the Blood would run faſter in them than in the *Aorta*; the contrary of which is demonſtrably true, and therefore the Blood circulates ſlower in the Capillaries than in the *Aorta*: And hence ſo many Stagnations in the Evaneſcent or Capillary Arteries; which alſo happens from the Cone growing narrower towards the Vertex of it, or, in other Terms, from the Arteries Straitneſs at its *Anaſtomoſis*.

Fluids cannot move on, unleſs the impelling Force conquer the Reſiſtances.

Hence if the Force of the Heart's Motion were not ſuperior to all Impediments in the Arteries, and elſewhere, the Blood would ſtagnate, and run

no more. And *Borelli* has, in his *Æconomia Animalis*, demonſtrated that the Power of the Heart is to that Reſiſtance, but as 1 to 45, or 3000 to 135000: and that were it not for ſome other Power, the Circulation muſt ceaſe of courſe; which auxiliary Impulſe he places in Percuſſion, or the Jerk and Shock it throws off its Load by; and ſo we again return to the Law, that the Moment is a Rectangle under the Quantity of Matter and the Celerity.

Thus when we labour under a Penury of Spirits in a Fever, the Criſpations of the Fibres being augmented by the violent Heat of the Blood, will occaſion the Impediment to Motion to be more forcible; and the Spirits flowing ſparingly through the Channels of the Nerves, will leſſen the Force of the Percuſſion; ſo that there muſt in this Caſe inevitably follow a full Stop to the Circulation, and the Thread of Life muſt be cut off; if then theſe Powers are not equally proportion'd, many and dreadful are the Conſequences of the Deſtruction of this *Æquilibrium*.

All Fluids flow through their Channels with only their Exceſs of Velocity above the Reſiſtances.

So that let us ſuppoſe a Fluid to be impell'd with a Force equal to 47, and that the Reſiſtances are equal to 35, then the Fluid only moves on with a Velocity equal to 12.

Hence in Cachexies, and other Diſorders proceeding from the Languid and Teſtudineous Motion of the Blood, the Alteratives muſt be given to ſuch a Proportion, as to augment the Motion, not only till it comes to an exact *Æquilibrium*, but till we make it arrive to that Exceſs of Velocity which the Nature of that Perſon, we have under our Care, has been known formerly to be accuſtom'd to, when he enjoy'd a perfect Health. The Knowledge of this is gathered by collateral Proofs, the Diſcuſ-

ſion

sion of which appertains not to our present Enquiry.

In all Fluids there is a Centre of Gravity, and Gravitation, *viz.*

1. The Center of Gravity is an imaginary *Axis*, which is supposed to pass in a perpendicular Line to the Bottom of the containing Vessel.

So that whatever Posture we are under, the Particles of the Blood gravitate upon some Part of the Vessel: *If our Posture is Erect*, than the Gravitation is on the Orifices of the lower Vessels: *If Horizontal*, each Column gravitates on the Sides of the Vessels. Hence in *Hæmorrhages of the Uterus* an erect Posture contributes extremely to promote it; but an horizontal one helps to allay it: So in *Hæmorrhages of the Nose*, an erect Posture is most convenient.

The Altitudes of Projectiles are to each other in a duplicate Ratio *of their Velocities.*

Suppose then that the Heart of any Person throws out its Contents to the Head, with a Velocity or Force equal to 2, and that if another propels its Fluids with a Force equal to 3: I then conclude, that if the Blood of the one wou'd be thrown 4 Inches, that of the other wou'd be thrown 9 Inches forward. This I look upon to give Light to a Physician, in Bleeding of his Patients, in the Knowledge of the Force of the Heart; for where the Blood of one Person will flow to the Distance of one Yard and half, or 54 Inches, from the Arm into the Dish, the other flows only to the Distance of half a Yard and half-quarter, or 22 Inches $\frac{1}{2}$. From hence also may be gather'd the imminent Danger Patients are under in Ardent Fevers; where the Force the Blood is thrown withal up to the Head, violently impacts it into the Cortical; nay, and I have (in

Diſſections of ſuch as died under this kind) found it deeply thruſt into the callous Subſtance, and in pretty large Quantity; from whence incurable Phrenzies often enſue. From this Head I would adviſe ſome unwary Practitioners not to tread a Road, too common now in Fevers, of giving teſtaceous Medicines, nay, much warmer Cordials, and fleaing their Patients with Numbers of Bliſters; when, if they conſulted Reaſon, and not Prejudice, they would eaſily view what Shoals they precipitated to the Grave by this Butchery.

Cylinders are to each other in a Ratio *compounded of their Baſes and Altitudes*; that is, if the *Baſe* of one Cylinder be 9, and another 6; and the *Altitude* of one 4, and the other 2; then are they to each other, as (4 X 9 =) 36 to (6 X 2 =) 12.

Hence are the Quantities of Liquors circulating in our Veſſels meaſur'd: Hence are the Quantities of Secretions proportion'd; for that it is eaſy (admitting there be no other Adventitious Cauſe, which I ſhall mention immediately) to believe that a greater Orifice will ſeparate a greater Quantity, and even the moſt coherent Sort of Fluid in any given Time: For indeed I ſuppoſe the Celerity of the Blood's Motion to be the ſame; becauſe when that is augmented, it alters the Queſtion extremely. Some of our Notionaliſts will have it, that a greater Celerity in the Motion of the Blood, occaſions a larger Quantity of ſecreted Fluids: But others, who argue from ſtern and patient Enquiry, find that the ſwifter the Motion of the Blood is, the leſs it ſeparates. Who are beſt Judges in this Caſe, will appear from this; that one alledges Fact, the other begs the Queſtion. We may then ſuppoſe the Caſe to ſtand thus; As we ſee that the Bladder, over-diſtended with Urine, cannot perform its ordinary Duty of Expulſion by the Contraction of its Fibres; ſo may

we

we ſay of ſuch Arteries as we know are over-loaded with a rarefied Quantity of Contents, that they in like manner cannot contract themſelves to protrude their Contents thro' the ordinary Emiſſaries, and conſequently do then ſeparate leſs. This will be no Surprize to any who conſiders, that whilſt the Bladder retains its Elaſticity and contractive Power, by this it contracts its Coats, and extrudes its Contents with Eaſe, becauſe here the Elaſticity is ſuperior to the Reſiſtances; but whenever the Reſiſtances conquer this elaſtick Power of the Muſcular Coat, then there neceſſarily follows a Suſpenſion of that Action. Now in an *Iſchury* (from this Cauſe) the lateral Preſſure is ſuch, that the Sides of the Bladder cannot act, becauſe rhe *Liquidum Nervorum* and Arterial Blood, from whence this Power of Motion is derived, cannot enter into the Bladder. And in ſuch a Caſe the Preſſure on the Sphincter is only equal to a Column of the Size of its Orifice, all the reſt of the Fluid having now a different Center of Gravity. But becauſe this one Example may not be ſufficient to convince a prejudic'd Perſon, I ſhall mention another Experiment of injecting Fluids into a Syphon, which we ſuppoſe is bor'd in ſeveral Places, to adequate the Caſe: If Liquids are thrown with a violent Force into this Tube, very little or none will exude through the ſmall Emiſſaries, but 'tis all of it hurried along the larger and direct Orifice: For that longitudinal Preſſure is much ſuperior to the latitudinal one, (the only two Directions we place in Fluids.) But a Practitioner will be more convinc'd by Experiments drawn from Practice, which for his Satisfaction I ſhall ſtoop to do, and then draw this Paragraph to a Concluſion. Don't we ſee it very common in dying Perſons, where the Motion of the Blood is very ſlow, that the Lungs ſeparate a great Quantity of *Mucus* into the *Bronchiæ*, which, ſo long as the Spirits

Spirits are so plentiful as to contract the Parts, is thrown out; but whenever they fail, then it choaks them? Is it not a common Experiment to tie one of the Jugulars of a Dog, and we find immediately that his *Saliva* is spued from the Salival Glands more plentifully? The same Experiment below the Heart is found to fill the Cavities of the Body with a Heap of *Serum*, which Dr. *Lower* looks on as one Occasion of a Dropsy. The same Mechanism holds also true in Convulsions about the Head, where the Motion of the Blood through the Arteries is impeded by the Diminution of their Diameters: And hence, as a Sequel of this in these Parts, I have seen an Inundation with *Serum* in the Ventricles, which indeed may also Evene from the Return of it impeded through the *Infundibulum*. Catarrhs are often a Consequence of a slow Motion of the *Lympha*, or its Return hinder'd through the Lymphaticks. In fine, daily Experience convinces the Gentlemen of the Faculty, who have had Opportunity to observe Nature's Laws, that after we have been spent with profuse Evacuations of Blood, we are often infested with dangerous *Diarrhœa's*, which are only an Effect of its loose Texture and its slow Motion, as well as of its Spirits, so that it drops through its Glands, where its Center of Gravity is directed downwards.

Canals that are impervious from any Extraneous Body, must, by straitening its Alveus, *be made to pass their Fluids: If they are impervious by their Rapidity, we must use Sluices to hinder its rapid Course: If they are impervious for want of Fluids, Sluices also help this Fault.*

How far this Maxim of Hydrostaticks can be adapted to human Bodies, I cannot certainly affirm; however, I shall deliver my Sentiments upon a Point or two which it seems to account for, without offering

offering to pronounce too dogmatically, as is the Cuſtom. The Antients, in Fevers of the malignant kind, have often adviſ'd *Bole*, *Terra ſigillata*, and ſome ſuch other ſtyptick Drugs, in order, as they ſuppoſed, to contraſt with the malignant Particles that had empoiſon'd the Blood and Juices. I obſerve theſe very Medicines mentioned by later Practitioners in their Books of Practice; and the Reaſons they give for their Acting, is, as they are pleas'd to term it, *To conglutinate the Craſis of the Blood*; whoſe Compages is here ſuppoſed to be too looſe; and from hence it is ſuppoſed to ſeparate ſo eaſily into the *Cutis*, thoſe Blotches, or whatever Eruption is made from the Blood. I ſaid, I obſerv'd it had been mentioned in their Books; but if you conſult their Files, you will rarely, if at all, find any Drug of that Nature blended with their other Medicines; which to me is an Argument, that when they write, they think themſelves oblig'd to give Reaſons to the Publick, they themſelves are not at all ſatisfied with. Give me Leave to follow their Examples, in the Account I am going to give of the Virtues of theſe Stypticks, which yet I would gladly they ſhould be perſuaſive, and introduce again what the Antients had doubtleſs obſerv'd to be uſeful. Shall we look upon the Retention of ſome Parcels of the *Perſpirabile*, (which a Learned Author ſays, is unequal in its Texture, and in *Malignants* calls it *viſcid*) to be this extraneous Body? Let it for once be granted me; I ſay then, That ſuch a *viſcid* ſhould be attenuated to a pitch fit for a critical Expulſion, it is neceſſary the Blood, or Blood-Veſſels ſhould receive ſome Change in their Texture or Oſcillation, or ſome ſuch probable way, in order to the bringing this about. I cannot ſee a more likely Method to compaſs this Deſign, than by an eaſy Suppoſition; and this I reckon to be done by changing the Diameters of the cylindri-

cal

cal Cones and Syphons into much narrower Limits, which we all know to be a Vertue aſcrib'd to Aſtringents; for by this very Mechaniſm, it will fall out that the Elaſtick Force of the Arteries will be encreas'd in a *Ratio* to a Diminution of the Diameters of theſe Cylinders; and whereas Tubes of a minute Diameter circulate their Fluids with a much greater Celerity than thoſe of larger Diameters, it may thus be reaſonably ſuppoſed that the Elaſticity of theſe Fibres being augmented, but their Diameters diminiſhed, the Fluids embrac'd between Fibres that have receiv'd ſuch a double Change, will be more ſtrongly compreſs'd, comminuted and agitated, as well as run on in a more continued Stream, and more nimbly than before, which to me ſeems to be all that is requiſite to hinder the ſeceding of ſuch Eruptions, and to attenuate this Viſcidity: As to what concerns the other Medicines commonly given in ſuch Fevers, 'tis a Diſquiſition appertaining to another Head.

I remember to have heard from a Lithotomiſt ſomewhat which then to me appear'd very paradoxical, That to make a Stone paſs thro' the Ureters, he look'd upon Claret (which all of us know to be a Styptick) to be the beſt Diuretick, and what would make it paſs the ſooneſt. This Mechaniſm you ſee holds in cleanſing Rivers of their Sand and other extraneous Bodies; whether it holds true in the Caſe of the Stone in the Kidneys, I ſhall not now take upon me to determine, but leave it to the Enquiry of ſuch who have Opportunity to obſerve.

Action and Re-action are equal.

This grand Maxim holds true in many Inſtances: Without this *Æquilibrium* the Blood would ſtagnate; for unleſs the reſtitutive Power of the Arteries

teries in their *Syſtole* were equal to their Dilatability in their *Diaſtole*, the Fluids contain'd would be preſs'd into 'em ſo copiouſly, that the Blood would ſtop at the Section of Reſiſtance; and from thence at the neareſt Section to that, up or down, to the very Heart, and ſo occaſion inevitable Death; which I take to be the Caſe in common Apoplexies, where the Laxity of the Fibres firſt ſuffers the Blood to lodge in the yielding Part, and from thence enſues gradually a Stop, till it can, for want of free Paſſage, run no longer. By this we find the *Denſity of the Air to be reciprocal to its Compreſſion*; ſo that whilſt the Compreſſion encreaſes, the Denſity of the Air equally encreaſes; and, *vice verſâ*, whilſt the Compreſſion is taken off, the Air is leſs denſe. Hence it might be inferr'd, that if the Moon acted on the Sea by Attraction or Gravitation, our Air would ſuffer ſome Change in its Action, and the Mercury would either riſe or fall at ſuch Times. This I ſhall have occaſion to handle below more amply; but this ſeems to be by Mr. *Boyle*'s *Coſmical Qualities*. Hence alſo *the Air's Elaſticity is reciprocal to its Extenſion*; ſo that if we live in a lower Region, the Column of Air that preſſes upon us, is much heavier than when we live in mountainous Places; ſo that they whoſe Lungs are ruptur'd, and who ſpit Blood, live uneaſy where the Air preſſes the Veſſels too much, and thus keeps the Fraction always open, but are help'd by Removal into an Air leſs compreſs'd, (avoiding any Extreme on this ſide too:) And they who are Aſthmatick, and want to have the Lungs more expanded, ought to live in a dry Region, and ſomewhat inclinable to Cold, where the Air will be more compreſs'd, and their Breaſts will be more opened. Hence the common Experiment of a Bladder half inflated, removed to a Mountain, it expands and ſwells. Hence 'tis that *the internal Air* (contain'd, I mean, in any Fluid)

Fluid) *expands or contracts reciprocally, as the incumbent Atmosphere expands or contracts itself:* Whence it is that Bottles in hot Weather will crack; nay, when the Air's drawn off, they will crack, tho' placed under the Water: From this Quality of the Air, it happens that our Blood in hot Weather occupies a greater Space, and occasions in such a Season Fits of an Asthma, Rheumatick Pains, Febrile Disorders, and such-like: Whence in cold Weather, when the Air is much contracted and heavier, the Blood almost loses its Elasticity, and Coagulations of dangerous Consequence ensue. But having hinted at this Principle, I shall add no farther Remarks.

Attraction of Bodies, is as the Squares of their Distances.

Hence at a greater Distance there is less of this Power exercis'd; at a less Distance it is greater: that is, if I suppose two Parcels of Salts; one at the Distance of 3 Inches from its fellow; another at the Distance of 5 Inches; then as 9 is to 25, so is the Attractive Force of one to the other.

Almighty God has plac'd a *Magnetism* in the World, and we find it, in some measure, plain on several Heads: Hence, when such attractive Bodies are segregated at a tolerable Distance, they lose the Force of Attraction; but at small Distances they coalesce: So Salt of Tartar flows by the Attraction of Water, which is not easily call'd off: But so much is said of this in Mathematical Authors, and more especially in Sir *Isaac Newton*'s *Quære's*, at the End of his *Opticks*, that little farther need be spoke of it here. As to the Original Cause of it, he supposes to be some Impulse, or perhaps some unknown Way. If then any Diseases are occasioned by the Juxta-position of such Bodies as will unite into some *Tertium quid*, and so bring on various

rious Symptoms, the eaſieſt Method with ſuch Cohæſions in Chymical Experiments, is, by Dilution; and this is beſt done by the Liquor heated, the Motion of which diſſociates, whilſt the Quantity enlarges the Diſtance of the attracting Salts: Hence it may not be amiſs to obſerve a Caution *Baglivi* (*p. m.* 474. *de Morborum & Naturæ analogiſmo*) brings upon the Caſe of Rheumatick Pains; after due Evacuations by Bleeding, a cool *Regimen* of Barley and Oatmeal-waters and Emulſions: He adds in the Declenſion; *ubi acuties tamen aliqua morbi nec non acrimonia inflammatoria adhuc viget; tunc ſumo flavedinem ſubtilem corticis limonum in fruſtula rejectum, eumque bullio leniter cum aquâ fontis; & hujuſmodi aquæ citratæ* calidæ *præbeo bibendos ægro tot cyathos quot velit, dummodo poſſit ſtomachus regere: Hac enim copioſâ potione refræno ſalium acrimoniam, vires reſtauro & FLUXILES REDDO HUMORES, ut in ſuis filtris facilius citiuſque repurgentur. Hanc potionem aquæ citratæ frequenter præſcribo —— ut aliquot cyathos ejuſdem* valde calidæ *quotidie ſorbeant.* Hence *Keil*, in his *Book of Secretions*, obſerves, "That Dilution "diminiſhes the Attraction of the Salts in Rheu- "matiſms, and hinders their Violence in acting "and producing their racking Effects, when they "approach too near to each other.

Thus it is in Hectical People, where the Acrimony and Salts in the Blood are ſo copious, and approach each other ſo near, that they ravage and tear the Fibres, or at leaſt irritate 'em ſo violently, that the Blood is hurried about one third faſter than in a natural Circulation, and conſequently a vaſter Expence of Spirits are required to propel it, in a *Ratio* to the Exceſs of *Syſtole*'s in this præternatural Circle to the natural one; for I think it will not be denied me, that our daily Actions are the Standard of the Expence of Spirits; ſo that

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their Exhauſtion bears a Proportion to the Quantity of Motion, and that Motion to the Numbers of Contractions; whoever then can know how to hinder or ſeparate the Contact of theſe Salts, hinders Irritation and their other Effects, that we ſee neceſſarily proceed from thence: Hence alſo here Dilution, in theſe Caſes, is neceſſary in an abſolute Senſe. As to the other Correctives commonly given in theſe Caſes, I don't deſign here to account for 'em, and therefore I ſhall proceed to another Point.

Motion in an inclin'd Plain, is doubly ſlower than in a perpendicular Line. The Celerity of Motion in an inclin'd Plain, is, to the Celerity of Motion in an inclin'd Plain of the ſame Altitude in a Ratio, *reciprocal to that of their Lines:* And *a Body falling from an inclin'd Plain, the Velocity is equal, if the Deſcent be ſo.* And *an inclin'd Plain given, 'tis eaſily found how far it's Body would fall in the ſame Space from a perpendicular of the ſame Altitude.*

Abſtracting from Reſiſtances, or allowing for 'em, theſe Lemma's may give us ſome Light to know the Quantity of the Circulation of the Blood in perpendicular Lines, or inclin'd Plains, by its own proper Weight; ſo that the directer the Line is, the ſtronger muſt be the Protruſion; and therefore where the Fibres are made laxer than naturally, by any aqueous, oily, or ſuch ſoft and unctuous Drugs, the Fibres, in proportion, turn leſs direct, and the Circulation grows ſlower in the Veſſels; and, till the Exhalation of theſe Particles by diſcutient or abſorbing Medicines, the Blood muſt continue to move ſlower on, and we be ſubject to all the Conſequences that neceſſarily attend ſuch a Change.

Heavier Bodies thruſt lighter ones upwards: The Protruſion of Bodies leſs heavy, is ſo much the more vehe-

vehement, as the Diſſimilitude of their Weights; (or *the* Protrudeus *and* Protruſum *are in a* Ratio *of their* Pondus.)

I ſhall only add, that hence it is that the *Mucus* of the Noſe ſwims at the Top of Water; and that Bodies only gravitate with their Exceſs above the protruded Body.

There is no Point of a viſible Object, from whence Rays don't reach to all Parts of the Iris, *and all Parts of an Object are ſeen:* And *Rays that emerge from a Glaſs Sphere, the* Focus *of ſuch emerging Rays is at the Diſtance of three Semi-Diameters, and more.*

From this it is concluded, that Spots and ſuch-like Black Figures that ſeem to float in the Eye, are not really in the Humours, for that the *Focus* of the Repreſentation of ſuch Gnats, would, if at all, not converge but at a great Diſtance beyond the *Retina*, and therefore cannot appear at the *Retina*, and therefore are not notic'd by the Eye: Hence it is concluded, that ſuch Specks are really ſome Obſtructions in the *Retina*, whence ſome Rays of the viſible Object that are receiv'd, are not perceiv'd. *Pitcairn* did us the Favour to advance this as a mighty Diſcovery he had made, which however was ſaid by *Galtruchius*, p. m. 269. ſpeaking from *Ariſtotle*, ſaying, *Senſibile poſitum ſupra ſenſum, non facit ſenſationem: Quare*, ſays *Galtruchius, quæ ſunt in oculo ab ipſo oculo non videntur.* —— *Quia ſi propiùs objectum accedit ad oculum, vertex coni refracti projicitur ultra retinam.*

In a Cone, the greateſt Reſiſtance to Motion is at the Vertex..

Hence 'tis ſuppos'd that Obſtructions moſt reaſonably happen in the evaneſcent Arteries; this alſo was advanc'd from *Pitcairn*, but taken notice

of long before by *Lindanus in Collegio ſupra Hartmannum, p.* 166. *de Meſenterij Inflammatione*, §. 2, & 3. who has theſe Words; *Obſtructio eſt metuenda ubi ex majori in minus vas defertur*: And hence it is that Tumours generally happen at the *Terminus* of ſome of the ſmall Arteries.

If the Blood be ſo vitiated, as that the Strengths be augmented or diminiſhed, 'tis the ſame as if the Blood offended in Quantity.

Hence, if a Perſon labour under a Want of Strength, from the Blood's being vitiated by ſome preternatural Ferment; 'tis the ſame thing as if the Blood were diminiſh'd and drawn off. And again, ſuppoſe a Perſon labours under a Diſeaſe, where their Strengths are much augmented, as Madneſs, and ſuch-like, from ſome Acrimony of the Blood, 'tis all one as if the Blood were augmented. So that ſuppoſe a Perſon has in the Veſſels 20 Pounds of Blood, and his Strengths equivalate 5 Pounds, then if we conſult Sir *Iſaac*'s *Law of Motion*, it will ſtand thus, ac==m, or 20 multiplied by 5 is equal to 100 *lb.* this Perſon can lift. If then a Perſon falls ill of Madneſs, and can lift up 140 *lb.* then the Moment of Strength in each Pound of Blood amounts to 7 *lb.* for 20 multiplied by 7 is 140: But if they labour under ſuch a Languor, as that they can only lift a Weight of 80 *lb.* then 20 multiplied by 4 is equal to 80 *lb.*

Secondly, Suppoſe the Blood were augmented to 28 *lb.* and the Moment of Strength of each Pound were equal to 5 *lb.* then 28 multiplied by 5 is equal to 140; ſo that 20 multiplied by 7 is 140, and 28 by 5 is 140. Hence 'tis evident that 'tis the ſame thing, as to Strength, whether the Blood's Quantity be augmented, or it's Quality vitiated. Hence it may be inferr'd, that if Madneſs be occaſioned by ſome Acrimony of the Blood, and the Strengths

Strengths of that Perſon be conſiderably augmented, we may act as if the Perſon labour'd under a Plenitude, by drawing off ſuch a Quantity, as will leſſen the Strengths of the Patient to a certain Degree; and this we may the more boldly attempt, becauſe 'tis agreeable to common Practice in ſuch Caſes: On the other hand, when the Strengths decay from ſome vitious Quality, it being the ſame thing as if ſo much Blood were loſt, we may give Cordial Diet and Medicines to repair the Loſs of Spirits and Strength: But as for the State of Humours, on which this Decay originally depends, 'tis the Buſineſs of another Part to correct.

The Heat in our Body is in a Ratio *compounded of the Quantity of Blood, and its Celerity,* And conſtituent Particles.

So that when we are under a Fever, and our Pulſe is encreas'd in Numbers, our Blood is obſerv'd to mount the *Thermometer* up to *Sultry*; and this depends upon the Rarefaction and Attrition of the Particles amongſt themſelves. I am not now calling it into Queſtion, whether ſome extraneous and active Particles don't give Riſe to this Velocity; for nothing is mov'd but by ſome Agent: Hence, *vice verſâ*, 'tis argued, that in cold Fits of an Ague, the Celerity, and conſequently the Attrition againſt the Sides of the Veſſels, is much leſſen'd; which ſome extraneous Salts occaſion, by clogging and impeding the Motion of the Blood: And here we find that the *Diſſilition of the Arteries is not reciprocal to the Reſiſtance*, as *Bellini* ſomewhere expreſſes himſelf; for, in this Caſe, the Pulſe grows weak and ſlow, as *Cole* has it, *p.* 126. *de Febr. Intermitt.* and therefore the *Syſtole* bears a reciprocal Proportion with the Influx of the Animal Spirits into the *Villi* of the Heart, which, in ſuch a Condition as the whole Fluids are then under, are very ſcantily ſup-

ply'd. This State of the Fever does not continue long, but is ſoon ſucceeded by its contrary, *Heat*; which, as the above-named *Bellini* has it, happens ſo ſoon as the *Preſſion, and the natural Force of Fire to exert itſelf, conquers the Implication from the Viſcid*; or, that the Particles, by a repeated Circulation, are comminuted and divided into leſs *Globuli*, where the Salts begin to extricate themſelves, and irritate the *Villi* of the whole Frame of the Heart and Arteries: And therefore to aſſiſt this Extrication the eaſier, and leſſen the Cohæſion, 'tis neceſſary to follow the Caution, once mention'd, in giving Liquors warm'd, to dilute, and ſtrongly to deſtroy the Attraction: The more Haſte we make in doing this, the better; for that in the cold Fits, there is Danger of their never ſurviving it, where the Cauſe of this Cohæſion is ſtrong and plentiful. The different Effects of Heat upon the Fibres of our Bodies, is ſomewhat remarkable; for a gentle Warmth relaxes 'em, whilſt a ſtrong one criſpates and corrugates 'em; ſo that in any Diſeaſe, where there is a Tenſeneſs of the Fibres, as *Baglivi* obſerves juſtly in Frenzies, Fomentations of warm Emollients to the *Hypocondria* relax and help to give ſome Revulſion to the Humours from the Head; for that by ſuch a Procedure, the relax'd Fibres give an eaſier Inlet to the circulating Fluids, by ſo much as the Reſiſtance to Motion is leſſen'd; and thus the Blood that is not impacted, runs thither with more Eaſe, and the diſtant Part is reliev'd. 'Tis upon this Principle of Relaxation, that *Sylvius c. 9. de Morbis Infantum*, adviſes the Feet to be bath'd in warm Milk, to prevent the Small-Pox's breaking out in the Face: 'Tis upon this Head too we read in *Verheyen de Febribus, p.* 294. that Sir *Kenelm Digby* order'd a Young Woman to rub one ſide of the Face with Oil of Almonds, and by it prevented any Marks from the Small-Pox; for that the more acuminated

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the Small-Pox are, the leſs they are obſerved to mark; and the Reſiſtance to Motion that Way being much leſſened, the Propulſion *ad extra* bore a Proportion to the Emollition of the Fibres. This ſame Mechaniſm is obſervable in critical Tumours, where the Part affected is rubb'd with *Ol. Chamæm. Lilior. Amygd. d. tum Lanâ ſuccidâ iiſdem oleis imbutâ.* Vid. *Schmitz. p.* 139.

We ſee then how the Exceſs of Heat criſpates 'em, in Proportion to the Humidity exhal'd; ſo that in a violent Heat we ſee 'em change their Texture and Direction extremely, even to become incapable of paſſing their Fluids, and at laſt of holding their Contents in their Channels; ſo that how Inflammations and Eroſions happen, is pretty well accounted for. On the other hand, a gentle Warmth is uſeful to keep the Veſſels flexile, and cauſe 'em to yield upon the Impulſe made upon 'em by the approaching Fluids; and thus the Circulation is continued by the elaſtick and reſtitutive Force, which is the natural Office of the Arteries, contracting themſelves after they have gently yielded to the Force impell'd on them by the Heart.

All Qualities are to each other as the Denſity of their Radii: And *This Denſity is reciprocally, as the Diſtance from the radiating Point*; or, *as the Squares of their Radii.*

Suppoſing two Circles; whatever is within the leſs, is more intenſely heated than the Body contained on the Surface of the larger, in a *duplicate Ratio* to their *Radii*; ſo that ſuppoſe the Surface of the leſſer Circle have it's *Radius* at the Diſtance of four Inches from the Radiating Point or Center, and the larger have its *Radius* at the Diſtance of 6 Inches; then, I ſay, the Body on the larger is heated as 36 to 16, which here is more than double: This Principle holds good in all Qualities,

as Heat, Cold, Air, Light, Sound, Smells, nay, and Motion; ſo that even the Blood may ſafely be ſaid to move on ſwiftlier at the Center of its Motion, the Heart, than at the Extremity of the Arteries and Veins, where there is the utmoſt Diſtance from its Radiating Point: But this being an Affair ſo much within the reach of Common Senſe, 'twould be an Obtruſion upon the Patience of the Reader to add more on this Head.

Effects are Aggregates or Rectangles under the Sum of their Cauſes.

Hence if we would account for any Effects produced in our Bodies, we muſt take a perfect View *of all the Cauſes* that can produce ſuch *Phænomena:* I would gladly perſuade Phyſicians particularly to be aware of the too narrow Views they commonly take in their Diſſertations; for if we look into their *Hypotheſes* they have ſettled, even in Practice, 'tis amazing to find Men of Senſe amuſing themſelves with Trifles, and leaving the ſerious part of the Buſineſs either entirely out, or handling it ſo ſlightly, that it is very evident they may ſtudy to raiſe a Reputation by an unintelligible Jargon; but that they either don't really underſtand the main Point, or believe it ſufficiently advanced by other Hands.

By this Rule, whoever has a mind to underſtand the Reaſon of Muſcular Motion, muſt take a View of what is obſervable of a Muſcle in Motion; ſo that he might not be miſtaken in accounting for it: We obſerve then that a Muſcle acting *grows ſhorter*; That however *its Surface is Equal*; That *its* Æquilibrium *is deſtroy'd*; That *its Power is greater and ſwifter*; That *its Figure is chang'd*; And, That *one* Terminus *is immoveable*. The Change of Figure in a Muſcle to Breadth ſhortens it; but yet Experiments try'd by the Ingenious Dr. *Connor*, whilſt

whilſt I was one of his Hearers, convinced me that the Surface was the ſame. We need only conſult *Geometry*, that a change of Figure is no Argument of the Surface being ſo too; ſince to adequate one *Parallelogram* to another, there is a Propoſition that *the Squares of equal Lines are equal*, and ſince ocular Demonſtration has convinced me of this, I find no Difficulty to ſuppoſe it ſhorter, yet broader, ſince what it loſes in Length it gains in Breadth. *That the* Æquilibrium *is deſtroy'd, is evident*; for whilſt one Muſcle has no greater Addition of Force than another, the Muſcle and its Antagoniſt are both at Reſt. From this Principle that *Body's plac'd at equal Angles from the Center, if theſe Bodies are equal, there is no Motion*; *but if you join any Weight to one of them, the ſtronger preſently makes an acute Angle with the Perpendicular and will move*, and the *Equilibrium* is deſtroy'd. *The Power is greater and Swifter*, in Proportion to the Diſtance of the *Termini*; for all Motion is varied in the Proportion of the *Periphery* or *Radius* to the Center: So that a Muſcle doubly longer will move a Weight as the Lengths ſquar'd. Hence a Muſcle 4 Inches long will move 16 Pounds, when a Muſcle of 2 Inches long only moves a Weight of 4 Pounds, if there be no other Cauſe that diſcriminates the Motion. *The Figure is chang'd*, for there wou'd be no Motion without this Mechaniſm, *the Angles being equal, the Sides are alſo equal*; but if the Sides continu'd unchang'd, they would be at Reſt. *One end of the Muſcle muſt be at Reſt and fix'd*; for *whatever is moved, is moved upon ſome Body at Reſt*: Hence the old Maxim of *Archimedes*, *Give me ſomething to fix my Feet on*, δὸς μοὶ πᾶ στῶ καὶ τὰν γᾶν κινάσω. But whether by a Contraction of the Venters to each Head, or by a *Pondus* drawing one Part upward, and another *Pondus* drawing the other Part down-

ward, or by the *Liquidum Nervorum* entring and rarefying, and occaſioning a contrary *Niſus*, and ſo enlarging the *Area*'s of the Fibres of this *Rhombus*, or whether by a bare Contraction, I ſhall not now determine, leaving to each Perſon to frame what Notion he pleaſes in this Matter.

One thing cannot here be paſs'd by in ſilence: Dr. *Cheyne*, in his *Theory of Fevers*, advances, That the Flegm of the Stomach can be no *Fomes* to encreaſe the Fevers; becauſe to enter the *Lacteals*, it ought to be much more attenuated than it is, and that a Sphere with a larger Diameter than the Orifice it is to paſs through cannot enter. Hence alſo another Gentleman concludes, That Balſamicks cannot be uſeful in Conſumptions, for that the Diameters of the Orifices of the *Lacteals* are too little to paſs them: But whoever reflects on the vaſt Fermentation there is in the Stomach, may gueſs how much any thing taken in at the Mouth, may be comminuted and divided by the inteſtine Motion between the *Heterogeneous* Particles of the Bodies, which we may grant here if no-where elſe: But if according to Monſieur *Chirac*, we compute the Compreſſion of the Muſcles of the *Abdomen* and *Diaphragm*, and that of the Stomach it ſelf to be equivalent to 260000 *lb.* how eaſy is it to imagin the vaſt *Comminution* Bodies taken in muſt bear, and how much they muſt be attenuated, and how eaſily paſs the *Lacteals*: Though I cannot believe that the Muſcles have this Force they aſcribe: If indeed they acted with a parallel Direction ſomewhat might be ſaid, but the Obliquity of the Direction muſt make this a falſe *Hypotheſis*, as is eaſily demonſtrated.

I have the Honour of a Call to a Baronet, who has for ſome time had the Misfortune of racking Pains, and continual, all along the Canal of the *Urethra* and in the Bladder, he voids Matter, is Hectical, has a *Teneſmus* after making Water, his Urine

Urine ſtops in the middle of its Courſe, he has a Weight in the *Pubes*, and Pains like Labour and a continual deſire to make Water. From ſuch Symptoms it would be eaſy to conclude there was a Stone in the Bladder, and an Ulcer, if Dr. C—*p*—*no*'s Authority had not abſolutely over-rul'd it; however, upon ſearch, I order'd to be made by himſelf, it is too evident to be farther a Doubt. Strange Stupidity, that Perſons who have practis'd a Trade for Forty Years together, ſhould forſake their Reaſon (pardon me the *Hyſteron Proteron*) and rely only to their Senſes!

Secreted Liquors in our Body differ in Degrees of Cohæſions, Fluidity and Quantity.

Hence all Liquors can be ſeparated through every Gland, if the ſize of the Gland be but alter'd. Hence in Icterical People where the *Ductus Choledochus* is obſtructed, the Bile is ſeen to paſs through the Kidneys, and appears in the Urine, as alſo in the Skin. The Laxity then of a Gland, putting a *Remora* to Motion, will make the Fluid ſtop there e're it can be ſecreted; hence that Humour ſecreted will be leſs Fluid; hence Opiates, by relaxing, make the Blood viſcid; or the more complicated a Gland, the more viſcid is the Juice ſecreted; for that ſo many *Plicæ* are ſo many Reſiſtances to Motion, and the leſs the Quantity of Fluids the ſlower the Motion, and the more viſcid is the Fluid ſecreted and the more the Quantity†; (for that the Blood circulates in the leſs complicated Arteries, and finding there the leſs Reſiſtance) the *Secreta* from thence are more fluid; hence alſo the Celerity, *Cæteris paribus*, augments the fluid Secretions; *the ſlow Motion*, the viſcid ones. In ſhort, the *Quantity*, *the Celerity*, and the *Largeneſs of the Orifices* augment the Secretion of the more fluid *Secreta*; but *the want of Blood*, *the ſlowneſs of its Motion*, *and laxity of the Fibres*, occaſion all the *Secreta* to be more viſcid. When therefore there

† Have hitherto laſt.

is

is a depreſſed State of Blood, and the Motion is ſlow, we are oblig'd, to forward the Secretions as well as change them, to adminiſter all the volatile or ponderous Medicines to amend this Fault; and, on the other hand, where the State is too exalted and the Secretions too fluid, we impede its Motion, and incraſſate the *Secreta* by all the acid, watry, and cooling Drugs uſed on ſuch Heads. As to the Quantity of the *Secreta*, it has hitherto been throughly believ'd that *Sanctorius* gave us an exact Detail of what Quantity of *Perſpirabile* as well as ſenſible Evacuations were thrown off in a Day, till Dr. *Floyer* found the contrary in our Clime by Experiments made for that end; ſo that inſtead of 50 ℥ in 12 Hours, 'tis evident we only perſpire about 7 or 8 Ounces in that time, which is nearly equal to what is exhal'd from an equal ſurface of the Sea in our Clime on that ſpace. As to the Meaſure of the *Perſpirabile* from the ſurface of the Lungs in the ſame time, I found it by a peculiar Contrivance, (I may have Leiſure to mention ſomewhere,) to be ℥iiij. ℈j. in our Clime. The Propulſion of the Blood through the Lungs being ſo near the Center of Motion, and the Varieties of the Air's preſſure being ſo immediately communicated to the *Bronchiæ*, as well as the coldneſs of it, having ſo immediate an influence over its *Secreta*, and the Part being ſo momentous to Life; I am ſo far from being ſurpriz'd at their Diſtempers, that I am amaz'd we ſhou'd not always ſuck in Death at this Port.

A Fluid of equal Velocity with another, but of greater Gravity, gives a greater Ictus *than one with equal Velocity and leſs Gravity.*

So we ſee in Percutient Bodies, the greater the *Pondus*, the greater is the Moment; ſo that the *Ictus* is not from the Moles but the ſpecifick Gravity: Hence if the Queſtion be about Aperients, I look upon *Volatiles*

and

and *Mercurials* join'd to be the moſt potent; for here you combine a ponderous Drug to one of a nimble Diſpoſition; the two Requiſites to make a ſtrong Effort on the Fluids and Solids too.

In Cones the Reſiſtance is leaſt in their Axis: Newton Prop. 35. L. 2. Schol.

Hence 'tis concluded that the Motion of Fluids through Cylinders and Cones find more Reſiſtance at the Sides of the Veſſels than in the Middle; ſo that the Blood is concluded to move faſter in the Middle of the Arteries, than at their Sides: So that it is hence ſaid, that the more viſcid Parts are at the Sides of the Arteries, for that the Motion being ſlower there, and the Parts being more at Reſt, have more Leiſure to Cohere, and are more viſcid, the Viſcidity being in a Reciprocal *Ratio* to the Celerity.

Stimuli *move the Solids and Fluids; contract and expreſs the Fluids, and exagitate the whole Maſs: They are perform'd by occaſioning a mutual Action on the Solids and Fluids.*

Whatever irritates, ſtimulates: Bliſters are a notable Example of *Stimulation.* Where the Solids are put into frequenter Oſcillations, the Fluids are hurried about by them with a greater Confuſion; becauſe in theſe we find very ſenſible Arguments to convince us that they enter the Blood, when we are oblig'd to have recourſe to Emulſions, and even Opiates or Camphorates to allay the Dyſuries they raiſe. Is it then reaſonable in Intenſe Fevers to apply 'em? Is it good Practice in Phrenzies? Are they indicated in the Vigour of Inflammations? And yet how frequently do we meet with this Mal-practice? But, *Populus vult decipi, decipiatur.*

Circles

Circles only touch in a Point; and a Sphere is touched by 12 *equal Spheres in* 12 *Points only.*

Whenever then a Body is ſpherical, and there is a Congeries of ſuch Bodies, they touch each other in few Points; ſo that their Cohæſion muſt be ſmall: and conſequently ſuch Bodies will eaſily aſcend by a ſmall Impulſe of the Fire. Hence 'tis agreed on, that Mercury being ſpherical, (or as *Gulielmini, Trattato di Fiumi,* ſays, ſpheroidical,) it more eaſily aſcends in Sublimation than ſome Bodies much lighter. Yet Doctor *Friend* obſerves very well, that if you mix Lead with Mercury, it aſcends the eaſier; for that the Gravity by that Mixture being diminiſh'd, the Surface is enlarged; and large Surfaces yield better to the Impulſe.

All Impulſes act with their Exceſs of Power only, above Reſiſtances. Et Vice Versâ.

Hence ſuppoſe any Agent act with a Degree of Impulſe equal to 6, and the Reſiſtance be equal to 4, then the Moment of Impulſe is equal to 2, its Exceſs of Power. We may then conclude that the greater Exceſs of Moment, removes the Reſiſtance the eaſier. Hence is it that Ruptures of the Blood-veſſels often happen from the too great Load of Blood, or the *Plethora ad vaſa*; and by a contrary Reaſon, it often happens that the Pulſe intermits; becauſe, as in the Caſe of Fat on the Auricle of the Heart, the Reſiſtance is greater than can be conquer'd in one Pulſation by the Moment of the Influx of the Spirits. The ſame is ſaid of any *Pondus* that hinders the Elevation of the Heart: But when ſuch a Quantity of Spirits are in the *Villi* of the Heart, as are more than a Counterbalance to the Reſiſtance, then it recirculates its reſting Fluids.

Animal Bodies are Porous: (πάσπνοον καὶ ἔκπνοον ὅλον τὸ σῶμα.)

Whoever conſults Mr. *Boyle* of the *Poroſity of Bodies*, will find that ſolid Bodies, and ſuch as are conſiderably denſer than any Species of Solid in human Bodies, admit of *Menſtrua* to penetrate them, ſuch as Glaſs, Gold, Copper, Crucibles, Sand, *&c.* And therefore we can be at no Loſs to conceive that the Pores even of Bones can imbibe Humidities, Humours, and even Mercury, if Authors obſerve juſtly. Hence in the Unction we find the Mercury as eaſily enter as Spirit of Wine; and therefore we may conclude the whole, with *Hippocrates*, that our Bodies have expiratory Paſſages as well as inſpiratory ones, or it would be hard to imagine how Gold ſhould turn white, if held in the Mouths of Perſons under a Salivation, and that by Unction (which I mention, to prevent any objecting that the Mercurials given inwardly ſtick ſomewhere about the Jaws,) but that the Gold attracts the Mercury lodged in the Blood.

Diſſolvents are ſo, becauſe of Congruity of Pores, &c.

Hence *Reſins* are beſt diſſolv'd in ſulphureous Bodies; Salts and Mucilages in Water; and Metals in Saline Bodies: But as Experience teaches us to know this, give me Leave to mention ſome few, out of many more behind: Turpentine, *G. Hæderæ*, *Galbanum*, Myrrh, Reſin of Jalap, Balſam of *Peru*, Balm of *Gilead*, and ſome diſtill'd Oils, are diſſoluble in the Yolk of an Egg; *Alkaheſt Glauberi* diſſolves *Ungula Alcis* ſpecifically; Oil of Anniſeeds diſſolves Coral; *Spirit of Nitre* diſſolves Butter of Antimony; Spirit of Wine diſſolves Mercury ſublimate, all Oils, and Scammony; *Antimony* acts on Gold; Sal. Tartar. acts

on

on Sulphur; *Spirit of Nitre* acts on Bismuth; Sulphur on Steel; Lead is wrought on by Orpiment into Shot; *Spirit of Wine, with Sal. Tartar.* dissolves Oils; *Salt Armoniack* acts on Brass; *Salts* melt better in Cellars, than at the House-top; *Camphire* corrects Cantharides; *Salt*, Antimony; *Mercury Sublimate* is dissoluble in Water. And *Konig Regn. Mineral.* says the same of Arsenick, which is best corrected by Salt of Tartar. *Hellebore* by Quinces, says *Antonius Ludovicus.* Hence, whenever any extraneous Ferment is in the Stomach, or the Vessels, whoever affects to cure well, must make himself Master of the several specifical Dissolvents, as well as make the strictest Enquiry into the Symptoms produc'd by them, that he may be able to distinguish how he is to proceed.

Salts alter according to the different Managements of them.

Calcination makes Salts lixivial; *Distillation* gives us acid Salts; *Putrefaction and Distillation* affords us volatile ones; *Coction* gives us nitrous, armoniacal, saline, or tartareous ones. Now we may hence conclude, that Coction being the only Operation neares to that perform'd in Blood, or rather a Branch of Coction, I mean *Digestion*; we can have no other Salts save these 4 last variously alter'd in their Texture. However, that other Salts are materially pre-existent in it; because the several Sorts of Salts mentioned can be rack'd from it by the Fire; or how comes it that *Spirit of Aunts* changes Blue Flowers into a Red, (as does Spirit of Sulphur;) and (like Spirit of *Æs Viride)* corrodes Lead or Iron, as I remember to have read somewhere in the *Philosophical Transactions.* And therefore when we are assur'd by the common Diagnosticks that Salts affect the Blood, we must use proper and specifical Corrigents to one of these; the tartareous and nitrous, give rise to the cold States of Blood; but the great Acri-

Acrimony of the Salt (whether by our Diet or Medicine, or otherwiſe) occaſions the exalted States: But this being a Subject too copious for my preſent Purpoſe to treat on, I leave it to ſome more curious Enquirer, or till my Leiſure will allow me farther Trials. I am apt to believe that our Lameneſs in the Knowledge of the particular Natures of Salts, has hitherto made Phyſicians look upon *Elephantiaſes* to be incurable: Some of which, however, are not ſo, to ſuch as know the true Method of ſpecificating the Antidote.

Colours are produc'd mechanically, as are Odours, Taſtes, &c.

Colours are ſaid to depend on their Salts: And to know the ſeveral Changes produc'd, we muſt be ſuppoſed to have ſome tolerable Skill in the Tinctorial Art; which at preſent I ſhall ſupply from the induſtrious Mr. *Boyle:* Salt-petre and Salt colours Neat's-Tongues red; Salt of Tartar boil'd in Milk makes it grow red; which many look upon to be the Caſe in the turning *Chyle* into Blood. A *ſulphureous Spirit* of *Benjamin* mix'd with *Sal Armon.* turns alſo red, which illuſtrates Sanguification. But whoever would be knowing in theſe Matters, let them conſult *Boyle, &c.*

Having ſaid enough to convince any thinking Perſon how far this Manner of Reaſoning is uſeful to Mankind, I have a Mind to annex ſome Trials made on human Blood, and ſome of the *Secreta,* which I have taken the Pains to collect for ſuch whoſe Leiſure allows them not to make ſo ſtrict a Scrutiny, which at once will help our Knowledge in the Nature of the Blood, and give them ſome Inſight into the Nature of Medicines.

Serum coagulates on dropping into it Sublimate Water; by Sp. Salt, Oil of Vitriol, Sp. of Wine, and

and Oil of Tartar, *per deliq*, (ſo it does Milk,) by the Heat of the Fire, by Allum, by ſeveral Tinctures made of Spirit of Wine, with Tinctures of Steel made with Acids.

It remains fluid with Spirit of Salt Armoniack, with Volatile Salts and Spirits, and moſt Tinctures made with Acrimonious Plants, with Tinctures of Steel (with Tartar.)

Blood coagulates with Oil of Vitriol, with Acids, with Allum, with Spirit of Wine, Cinnamon-Water, diſtill'd Vinegar. And though it coagulate by it ſelf when let out, yet it congeals ſooner with the following Trials; by Extract of Gall, Juices of Hemlock, *Alchymilla*, Biſtort; by Lixivial Salts of Tamariſc, Roſemary, *Pulegium*, and of Thime.

Remains fluid, with Sp. C. C. ol. Tartar. Sp. Sal. Armon. Sal. Abſinth, Cort. Peruvian. Pulv. or Tincture; with Juices of Lavender, Sage, *Thea* (made,) Wormwood, Bawm, Succory, Tanſy; with Lixivial Salts of *Eruca*, *Artimiſia*, Shepherd's Purſe.

Saliva drops a Sediment with Lixivial Salts.

Chyle and Lympha coagulate with Sp. *Vini*, Vitriol, Heat, with the Air; Oil of Vitriol.

Chyle and Lympha remain fluid, with Motion, with volatile and fix'd Salts.

Bile coagulates with Sp. Vin. rectific. Oil of Tartar. *per deliq.* Crude Allum, Tincture of Cantharides, Cinnamon-Water, Sp. *Nitri*, Sp. Vitriol, *Aqua fortis*, Vinegar, White-wine, Fair Water; Sp. C. C. Sp. Salis, Oil of Tartar. Nitrat.

Bile remains fluid, with Sea-Salt, *Vitriolum Martis*, Salt Armoniack, and Sal. Abſinth.

SECT.

SECT. III.

Of the Danger of drawing Concluſions in Practice, that are falſe, from probable Grounds.

THIS is now a-days too common; where the Gentlemen of the Faculty begin to ſuppoſe they have reaſon'd *à priori*, one would be tempted to believe they deem'd it an Abaſement to ſtoop to notice the Effects: They may pardon me till they hear what I am about to ſay upon this Head, for that I perſwade my ſelf they will then, with me, paſs Judgment upon ſuch an unjuſt and pernicious way of Reaſoning.

Let me ſuppoſe, with Sir *Iſaac Newton*, that the Moon does by Attraction elevate the Sea-Water into a *Spheroidal:* and thus when ſhe is *vertical* to us (being nearer to us) does attract more ſtrongly. There is not, that I know of, one Experiment to demonſtrate that the Air is in any manner alter'd in its Weight by this Attraction. This a late Gentleman has own'd in Terms; and I ſhall add a Load to the Scale, if he believes it not ſufficient to give Credit to the Teſtimony of one Witneſs; for having had the Opportunity of obſerving the Riſe and Fall of Mercury in one of Mr. *Hawkesby*'s 30 Inches Diagonals at ſeveral Tides, I found not any Change that was not accountable for by the preſent Alteration of Weather. Hence I look upon it as *gratis dictum*, to aſſert againſt ocular Demonſtration, that the Blood ſwells, becauſe the Compreſſion of the Air is leſſen'd; for if the Blood rarefies for that Reaſon only, that being evidently falſe, the Rarefaction built on this Suppoſition, is but begging the Queſtion: But this Suppoſition of Sir *Iſaac*'s, though it

throughly explain all the *Phænomena* he would infer from thence; yet is not so certain, but that a late Treatise of Mr. *B---w*'s on the *Tides*, does equally prove what he advances, tho' he proceeds upon an opposite Bottom, and assigns Gravitation to be the Cause of these Tides: These are the *Quisquiliæ Philosophorum*, and very little to the Purpose they are mentioned for; since neither the Gravitation of the one, nor the Attraction of the other, produce any Alteration in the Air's Compression; (but the Moon seems to work by a Magnetism, and leaves it in the same Condition they found it in;) nor consequently in our Blood in that Sense he speaks it. 'Tis true, a momentaneous Compression only, † affects the Fibres; and they being constring'd, a Plenitude arises, and the Blood moves on faster; but a durable one, also compresses the Blood; so that the one warms, whilst the other cools us. Therefore *Indications drawn thus, appear to me too far fetch'd to rely too much on*; and, I hope, when this learned Author does us the Honour he is graciously pleas'd to promise in his Preface to that learned Tract, he will lay aside those foreign Indications; because, to come to the Purpose, *Nothing indicates, but what has a fix'd Being in or upon our Body.* Now, to evacuate a Plenitude, where there is no Effects of one, would be to contrast with imaginary Evils, and such as have no Existence but in Notion. Had he prov'd by the *Ictus*, the *Space*, or *Intervals* of the Pulse (after such Tides,) or by any collateral Proofs, that there was a Rarefaction, or any particular Plenitude; then indeed his Treatise, tho' it would have appear'd a less curious Enquiry to the Vulgar, would have been built upon some Foundation. Nothing then can be concluded on from this Motion, that ought to oblige us to steer our Course by.

† Unwholesome a Procedure contrary to Hippocrates.

I shall

I shall add farther, that I look upon a *Procatarctick Cause to be a slender Bottom for settling an Indication on*, because not permanent: And if I may be allowed to say it, they contribute no farther than to frame a Judgment; but not being any-where fix'd, cannot indicate; nay, on the contrary, these Causes often produce Effects in the Blood, remediable by the individual Thing that gave Rise to the Disease; as we see Dropsical Persons obliged to drink Wine, tho' Wine produc'd it; Persons with Rheumatick Pains from overwetting, are often cur'd by the Immersion in the Cold Bath. In fine, so many flagrant Instances of this kind may be produced, that a Practitioner can be at no loss to find them, since they occur in his daily Visits. Hence, by the way, I must take notice that what *Baglivi* says, *p. m.* 206. must be false: *Aliter enim tractare debemus Febrim ab intempestivo frigore, aliter à crapulâ, venere, insolatione, animi pathematis, aliisque causis productam.* And below, *p.* 206. *Nonne insaniret Medicus, qui ardentem Febrim à nimiâ venere productam eâdem methodo purgantium, venæ sectionis, &c. aggrederetur, quâ ardentes aliis causis ortum debentes aggredi solet?* I only answer, *Amicus Plato, Amicus Socrates, sed magis Amica Veritas*; for I shall endeavour to make it plain in the next Chapter, that all this is uncertain, since our Indications may be the same in all or any of them, and therefore not always different nor variable, by reason of the external Causes.

There is another who has reason'd too much *à priori*, in his *c.* 3. *of a Consumption*: His Argument stands thus from *Data* in his Propositions; From any Suppression, arises a *Plethora*; from a Plenitude, arises a *Relaxation of the Fibres*; from a Relaxation of the Fibres, arises a slow Motion of the Blood; from a slow Motion of the Fluids, arises a mucous and viscid State of Blood; from

this Viſcidity ariſes a Paucity of Spirits; from this Penury, ariſes an Incapacity of Dilatation of the *Thorax*, (and a want of ſufficient Air to compreſs;) from this Ineptitude to Dilatation, ariſes a Stagnation; from a Stagnation, ariſes an Inflammation; from an Inflammation, ariſes an Ulcer, or a confirm'd Conſumption And he draws his Indications from this manner of Reaſoning, thus: Hence, ſays he, the *Humours muſt be render'd more fluid*, the *Fibres made tenſer*, and the *Phlegm evacuated*; ſo that we muſt attenuate, contract, and evacuate. As for Balſamicks, he looks upon them as uſeleſs; only they are Stomachicks, if mix'd with Salts. Let us conſult ſome Authorities upon ſo nice a Point; and then I ſhall reaſon from *Experience* in a very different manner. *Barbette* uſes in a Conſumption Opiates, Spirit of Salt, and cooling Things, and adviſes to forbear Purgatives: And *Dekkers*, upon him, adds Pectoral Decoctions and Decoctions of Colewort, with Sugar of Roſes. *Sylvius* adviſes Gum-Arabick, Roots of *Althæa*, Liquorice, Comfrey, Leaves of *Althæa*, Mallows, *&c.* the four Cold Seeds, Quince-Seeds, Almonds, Barley, *Opium*, Juice of Liquorice, all fat Earths, and ſuch-like. *Etmuller* gives Milk, Spaw-Waters, Opiates, *&c.* *Morton* preſcribes Milk, Spaw-Waters, Opiates, and ſmooth Pectorals, and thin Diet, oleous and mucilaginous Medicines. *Sennertus* adviſes Humectants and Refrigerants, ſuch as hinder the febrile Temper, ſmooth Medicines, Butter unſalted, Milk, and ſuch-like. *Nicholas Piſo* adviſes Snails, and Snail-water, Milk eſpecially, and ſmooth and mucilaginous Medicines. *Hieronymus Cardanus* commends Oil of Vitriol in Water of Maiden-hair. *Lucas Tozzi* commends *Storax* and Cynogloſs Pills. *Borellus* praiſes Butter of Woman's Milk, as a Secret. *Valeſcus de Tarenta* commends *Pulvis Haly*. *Rhaſis*, Aſſes Milk. *Platerus* adviſes

Sugar

Sugar of Roſes; ſo does *Valeriola*. *Riverius* adviſes Milk as the beſt Remedy, and ſuch as anſwers all Intentions; Medicines that repreſs the Hectick and Coolers. *Willis* adviſes Flowers of the great Daiſie, Snails, Liquorice, Milk, and ſuch-like, Shavings of Ivory, Hartſhorn, and China in Decoctions. *Mayern* ſays the Acrimony of the Humours is to be obtunded, the Febrile Heat is to be temper'd, and Milk to be uſed. *Cheſneau* adviſes a Decoction of China and Lungwort, and Milk. *Horſtius* corrects the Acrimony, and uſes Opiates.

I have taken the Pains to bring ſuch a Crowd of Authorities, to the End that Practice and Notion might co-incide; becauſe whoever would be a juſt Practitioner, muſt go backwards in his Reaſoning: And therefore ſince I find, by ſuch good and grave Men, Conſumptions treated in a very contrary manner, 'tis my part to ſubmit to their Judgments, where I have not ſufficiently experienc'd the contrary: Let us then ſee how, upon ſo ſolid a *Baſis* as the Experience of Ancient and Modern Learning, we can draw a different Concluſion from this Theoretical Gentleman. I ſay then that any Suppreſſion may occaſion a *Plethora*; that a Plenitude occaſions the *Poſitions of the Veſſels* to be more direct; from the Tenſion and directer Poſition, ariſes a ſwifter Motion of the Blood; from the Motion encreas'd, ariſes a Fluidity and Tenuity of the Blood and Juices; from this Fluidity, ariſes a larger Secretion of Spirits; from the Quantity of the Spirits, ariſe irregular Excurſions of 'em into particular Parts; from this, ariſes a Criſpation of the Fibres; from this, ariſes an Inflexibility of the *Thorax*; from the ſmall Motion of the *Thorax*, ariſes a Stagnation; from the Impediment put to the Motion of the Blood, ariſes an Obſtruction of the evaneſcent Arteries; from an Obſtruction there, ariſes an Inflammation; from this, ariſes an Abſceſs,

and an Ulcer of the Lungs: So that an Evacuation is requir'd; after which Relaxants, Incraſſants, and ſuch as clog the Hurry of the Motion, faſting from too ſpirituous a Diet, Opiates, oleous and mucilaginous Medicines, gentle Aperients of the cooler kind, Bleeding and Balſamicks are all the Requiſites in a Conſumption; which, whoever has either read or practis'd, cannot but be pretty ſufficiently appriz'd of, to need any farther ſaid on this Point.

Mention ſhall here be made of an Inference made by *Pitcarn* in his *Oration to the Univerſity*; after having made uſe of Arguments to ſhew us that Objects in the Eye could not be obſerv'd on the *Retina* (which was no Diſcovery, as I have hinted above;) he gravely proceeds, and tells us, that ſince it was evident to a Demonſtration, that thoſe Bodies that appear'd before our Eyes, had not their Abode where it was commonly ſuppos'd, then it could not be agreeable to right Reaſon to apply *Collyria* to diſſipate what had no Being, and concludes them uſeleſs. This, I conceive, (with Deference to the *Manes* of ſo great a Man) was a Concluſion too haſtily drawn; for let us ſuppoſe that theſe Specks are ſo many Impediments to the Reception of the viſual Rays, and that they are a Conſequence of ſome Fibrils of the *Retina*, being bung'd up and obſtructed by ſome Viſcidity or external Compreſſion: Is it not certain that the Coats of the Eye are Expanſions of the *Dura* and *Pia Mater*, and that the *Retina* is the medullar Part of the Brain? Is it not daily and good Practice to order external Stimulants to Palſied Nerves in other Parts of the Body? Is it not certain (at leaſt *ex conceſſis*) that theſe are ſo many partial Palſies of the *Retina*, as there appear Specks? Is it not certain that a total Palſie of the *Retina* is a *Gutta Serena*? Is it not certain that the nearer we approach to the

Part

Part affected, the more Effect will the Medicines produce? We may then, I think, ſafely conclude, that *Collyria* well adapted are ſo far from being uſeleſs, that they are neceſſary to ſtimulate the Coats of the Eye affected, in order to occaſion a briſker Oſcillation in the Fibres of the Part, and ſo aſſiſt the ſhaking off of the Obſtruction; and conſequently when this is done, the Specks will appear no more.

A Critick is an unwelcome Gueſt; and if my Deſign had been to find Fault out of an Itch of Satyriſm only, I deſerve Returns made me; but the Good of my Neighbour being my ſole Aim; and the Treatiſes mentioned being Works produced by the Labour of Men of Value and Reputation in their Profeſſions, I conſider that ſuch great ill Examples lead the reſt of the inferior World into miſerable and wretched Miſ-managements, which are ſucceeded by the Deſtruction of Thouſands; becauſe tho' the Inventors of ſuch Reaſoning can in Practice correct their own Miſtakes *pro Re Natâ*; yet ſuch as truſt to their Demonſtrations cannot: And thus we purchaſe at the Bookſeller's, not the Art of Healing, but the Art of Deſtruction.

From this I would adviſe all Practitioners to avoid begging the Queſtion, and affirming any thing contrary to known Experience, but would have 'em proceed with Reaſon, back'd by Experience, the only Props a Phyſician can rely on.

SECT. IV.

Whence Indications are drawn.

I Hinted above, that nothing could indicate, but what was ſomewhere fix'd in or on our Bodies; for that external Procatarctick Cauſes did not al-

ways act on us as they might; and that however if they did, they did not always produce such Effects in us, as Conjecture had dictated; and that therefore, to know what Effects they did produce, we were obliged to have recourse to Observations taken from the deprav'd Functions of our Organs, the preternatural Change in the Qualities of our Fluids and Solids, and the Retentions and Evacuations of our Fluids. I would not have Physicians terrify'd from Enquiry into these permanent Effects; for that Mr. *Boyle* has affirm'd, that the Causes of Diseases are not yet assign'd, *Philos. Experimental.* On the contrary, with leave of so great a Man, I do'nt find but they are; and whoever considers what I am about to advance, will be sensible they already are: However, the Diagnosticks of such *Effects* are not thoroughly ascertain'd, nor ever will. You will pardon my confounding the Words *Effects* and *Causes*; but I say with *Mercurialis de Morbis Pueror. l.* 1. *p. m.* 13. *Morbus dupliciter spectatur*; *Morbus ut Causa, suos habet Effectus*; *ut Effectus, suas habet Causas.*

I shall begin with *Plenitudes*; and I take them in an extensive Sense, not as a Plenitude *ad vasa* and *ad vires* only; but where-ever there is any particular Repletion, any Stagnation, any Compression of and from Humours, I look upon them all to require the same Mechanism in their Cure; for that *Quod plenum est, evacuari debet. Galen. l.* 1. *Aphor. Comment.* 23. *Martin. Wendelinus, l.* 3. *Axiom. Medic. Axiomat.* 780. So that where-ever a Part or the Whole is loaded with a Quantity of Fluids, we must there evacuate. This holds true in external Cases, as well as internal; for in Gangrenes, where the Part is distended with Humours, and there is an Impossibility to recirculate the stagnating Blood, we must scarify, to evacuate the Plenitude; which being taken off, the Remainder in the Part beyond

and

and below the inflam'd Member begins to obey the Motion of the propelling *Impetus*; and (if no great Alteration is produc'd in the Part) 'tis after this Method eaſily amended. So if we diſcover the Head to be overloaden with Humours, as is commonly evident, becauſe 'tis καρηβαρικὸν, καταῤῥιακὸν, and κωματῶδες, according to *Hollerius* and *Duretus*; we are then to conſider whether this Repletion be from a pure or an impure *Plethora*, and we muſt accordingly ſuit our Evacuations. We muſt then ſay, that there are two ſorts of Evacuations, Inſtrumental and Medicinal: To the Firſt are referr'd the *Paracenteſis* or Apertion, in any Senſe: To the latter all the *Stimuli*, which not only have an Effect on the Stomach and Inteſtines, but alſo on the Veſſels and ſecretory Ducts; ſo that the Shock and *Irritation* give an Uneaſineſs to the Glands, and ſqueeze 'em by their acrimonious Parts to Evacuations, as does the *accidental Shock* given to ſeveral of the *Viſcera*, when, for Example, an *Emetick* given, opens Obſtructions in the Gall-Bladder, and ſhakes off the Load of Phlegm from the *Bronchiæ* in *Aſthma's*: To this Head is referr'd Riding in Aſthmatick Conſumptions; for, to ſpeak Truth, Dr. *Sydenham* can mean no other, when he adviſes Riding in ſuch as are even much ſpent. My Bounds will not allow me to expatiate farther on this Head at preſent.

An Atrophy is an *oppoſite* to Plenitudes; and I would be underſtood to take this in as large a Senſe as I have done in the former Paragraph; ſo that where-ever there is any Defect of Juices in General or in Particular, the Buſineſs of a Phyſician is to ſupply ſome amicable Specificks, in order to reſtore the Want; where no Evacuations can take Place, but only ſuch Alterations as are of the ſame Nature with the Juice or Fluid to be ſupply'd. So that here we are ſuppos'd to be Maſters of the Nature of ſuch Juices, or we can never act the

Part

Part of a Phyſician, in amending we know not what: I would not, however, be underſtood to ask an Impoſſibility of any Agent; and therefore ſince there are ſeveral of the Fluids in Human Bodies, whoſe Natures we are very unſenſible of, *à priori*; becauſe they fall not under the common Method of Experiment, ſuch the Spirits are; yet 'tis enough to a Practitioner to know the Nature of 'em, *à poſteriori*; and ſince we find them recruited by certain nimble Agents, we are, however, look'd upon to be ſufficiently appriz'd of the Nature of ſuch, when we adminiſter ſuch as Experience has found out, by a patient Series of Tryals to ſupply 'em; ſo that when they are wanting, we give all the Cordial Medicines, ſuch are volatile Spirits, Aromaticks, and volatile Oyls, given in ſuch Quantities as may ſupply, but not add any Exotick Quality that may contraſt with any Contraindicating Cauſe: So the *Semen* is ſupply'd with ſuch *Particles* as anſwer its double Nature of Mucilage and Acrimony; hence we give Oyſters, Pepper and Milk, Spaniſh Wines and Yolks of Eggs, Chocolate, and ſuch-like Drugs.

The *Defect of Ferment in the Stomach*, is ſupply'd with Mucilages and Acids join'd; ſuch are Elixir of Vitriol, and warm Jelly, and ſuch-like. As to *Old Age*, whoever falls under a Decay of Spirits, are properly old; and therefore that mighty *Ens meliſſæ* of Mr. *L' Febure*'s can be no otherwiſe ſerviceable, than that it is a great Reſtorative of the Spirits; which, however, I leave to every Man to judge whether it will do the Feats they pretend. The Difficulty of ſupplying the deficient Fluids is not ſo great a Secret as the Diſcovery of ſuch Defects, which, if Time allow me, I ſhall endeavour to illuſtrate in a proper Seaſon.

3. *The Blood is often ſtock'd with Exotick Qualities*, which conſtitute the different States of Blood, and

and which Juſtice has been done to, by the Ingenious and Laborious Dr. *Floyer : In the depreſs'd States of Blood*, where our Heat is below the Standard, if there is a *Lentor*, all the Bitters, Aromaticks, fixt and volatile Salts are indicated, Chalybeats are good, Mercurials are here proper too; Riding is profitable. I here wou'd Remark one Thing, becauſe I have often found Practitioners in ſome Miſtake about it. When Pains ſeize a Patient and wander about the Body, but yet have no Heat along with them, that is, not Natural, or are not plainly Convulſive, I have ſeen diſmal Conſequences from Bleeding frequently in this Caſe; for that Dropſies have enſu'd upon it, and they have only chang'd a leſs Diſorder into a much greater. If theſe Gentlemen would but give themſelves the Leiſure to reflect, that the Blood being ſluggiſh, and reſting at the Capillaries, gives Riſe to theſe Pains, they would then judge, that volatile Medicines would cure the Patient very eaſily, and ſave them their Reputation

If the Blood is Sour, by Diet, Medicines, or the Retention of any Humour that ought to have been thrown out of the Body, we muſt give the Alcalines of all Sorts, whether teſtaceous, fixt or volatile, Chalybeats, and whatever will rob the Blood of this obſtinate Gueſt, which generally attends the Hypochondriack Perſons. 'Tis yet an eaſier Task to the Undertaker, when the External Cauſes have ſour'd the Maſs and Spirits, than when the Paſſions of the Mind have deprav'd them; becauſe it is eaſier to deny them what is hurtful for them, and forbear to give them ſuch Fare, than to bridle an irregular Paſſion which attacks them unſeen and when alone; and it would not be eaſy to conceive how an inviſible Form ſhould ſo diſturb Matter, but that it occurs in daily Practice.

When

When our Blood is too Serous and Fluid, all Abſorbents of the Teſtaceous kind are uſeful, Ceruſs of Antimony, all Diaphoreticks and Diureticks, all Bitters, Petaſitis, Guaicum, Saſſafras, Juniper-Wood, Muſtard-Seed, Horſe-Radiſh, Pulv. Æthiop. and ſuch-like, are proper to correct the too watriſh and lax State of Blood, and carry them off by the Pores of the Skin or Kidneys.

Wind is the Produce of all vitiated States, and is carried off by the moſt powerful Inciders, ſuch as volatile and oily Salts, Aromaticks in Pouders, Infuſions, Waters, and Oils, Ginger or Caſtor in Wine. If the Wind is rais'd from an acid State of Blood, the State from whence it is produc'd being hard to get rid of, the Wind ariſing from the Fermentation of that Humour in the Stomach is alſo difficult to cure. I remember a Lady of Note, who, for a conſiderable time, had been troubled with a Swelling or rather a Fulneſs at her Stomach, which ſhe could not be cur'd of by her Phyſician in Ordinary; upon Application to me, I did believe it was Wind, and proceeded on in ſuch a Method for ſix Weeks as I judg'd might have been effectual; but to my ſurprize, at the expiration of that ſpace ſhe was as full of Complaints as at firſt: By the Obſtinacy of the Diſeaſe, I had juſt Reaſon to ſuſpect that this was an acid Wind, if I may ſo term it, and therefore I gave her *Antimonium Diaphoreticum* in Juleps, which in a Fortnight's time perfectly reliev'd her, and ſhe return'd better ſatisfy'd than I was.

I muſt here remark once for all, *That all ſaline States, whether acid, nitrous, ſalino-ſulphureous, (fixt or volatile) or any ſpecies, whatever of them are cur'd, as* Bohnius *obſerves, by Watry Drugs, Terreous, Teſtaceous, Gritty, and Martial ones, alcaliz'd Salts whether urinous or fixt, Aromaticks and Bitters, alſo by oily, mucilaginous and gelatinous Medicines:*

dicines: ſo that if we are ignorant of the peculiar nature of the Salt offending in the Maſs, yet we are not at a loſs to be doing ſomewhat to the Purpoſe, till ſome Chance let us into this Secret.

Hence when we labour under Diſeaſes that can be aſcrib'd to any one or more of theſe Heads, we muſt follow the Rules thar are hinted at below in the Εὐοδία *Medicorum.*

If the Blood be hotter than it ſhould naturally be, ſo that the Laborants are always Hectical, by having their Pulſations more numerous in a Minute than they ſhould, along with a preternatural Heat in their Bodies, but moſt perceptible in the Palms of the Hands and the Soles of their Feet; then we are to conſider whether the fixt or volatile Salts reign moſt, or whether the volatile Acid is predominant; not that I ſuppoſe them really ſuch, but I ſpeak *ad apparentiam*; for that we find by daily Experience that Acids amend the one ſort of hot State of Blood, and *gentle Abſorbents*, as Pearl, Coral, Crab's-eyes and ſuch-like are profitable in the other: But, as I obſerv'd above, in both the Diluents, *&c.* agree.

As to the *Flatus* produc'd by theſe hot States, as they are from a more volatile Cauſe, ſo are they more impetuous in their Effects. We ſuppoſe Convulſions, *Mania*'s, *Vertigo*'s, *Incubi*, and ſuch-like Diſorders to proceed from this Wind; we therefore give, in ſuch Caſes, Opiates to repreſs them, and in ſome Caſes Spirit of Niter is a good Medicine: But 'tis enough to have hinted at theſe States in ſo ſhort an Eſſay. If we are guilty of that Ignorance *Etmuller (Anotation. Practic. ad Inſtitut. Medic. Phyſiolog.* p. 82.) ſtoops to acknowlege; I cannot ſay how far his Advice ſquares with Reaſon, ſince Patience and Vigilance perhaps would better ſerve the Turn.

Fevers

Fevers are the *Deſtroying Angel* of Mankind; and a thorough Knowledge of them is a compleat Syſtem of Phyſick. They ape a Plenitude, in that they are not cured but by Evacuation, and the Medicines us'd in their ſeveral Species are but Preparatives to fit them for Expulſion. But I ſpeak with reference to a precedent Concoction ſhew'd in the Urine after the State, whoſe dropping a regular Sediment (by which I exclude the πρὸν ἀναλελαραγμένον, and the ἀπόστασις κρεμνώδης) is a good Sign, if it continue ſteddily ſo. I ſhall not expatiate here farther, than to divide them into a *Cauſus*, and a hectical or malignant kind. If the Blood boil, (pardon the Term,) and over-bear extravagantly, let the Time of the Fever be what it will, nay, let it be what ſort of Fever you pleaſe, *(always excepting a Plague,)* you are obliged to give the cooling and diluting Diet and Medicines to allay the Fever, by disjoining the Salts; ſuch are Barley-water, Juice of Lemons, *Gas Sulphuris*, *Sp. Vitriol. Sp. Nitri dulcis*, Emulſions, (unmix'd with Acids, for Fear of Precipitation,) and ſuch-like. You ought not only to *aſcertain the Nature* of the Medicines that alter this Hurry; but you are oblig'd alſo to be careful to fix *on what Degree and Quantity* you muſt not exceed. In which Affair I believe a *Thermometer* might be of Uſe, ſuppoſing we knew what was their Degree of Heat whilſt in perfect Health; otherwiſe Experience only can be your ſtandard Rule. *I have hinted this, in order to warn the young Gentlemen of the Faculty to keep in Mind, that in all Fevers* (ſtill excepting the Plague) *you muſt reduce them as near to the natural Heat (they us'd to be of, when in Health) as you can, and keep them to it ſo long as till the Fever is diſmiſs'd through ſome Emiſſary.* Whenever the Fever is of ſuch a Species, that the Blood moves on too ſlowly, reſpectively ſpeaking, we then are obliged to ſteer another Courſe,

Courſe, and in Proportion to the Degree of the defective Ebullition, we muſt advance it by all the Teſtaceous, Bitters, Fetids, fix'd or volatile Medicines, internally adminiſter'd, or externally applied, till it arrive to a certain Standard, fitted for Expulſion, the Ignorance of which is the Bane of the Patient, and an *Opprobrium* to the Phyſician. In this Species then, Coral, Crabs-eyes, Pearl, *Serpentaria Virginiana*, (with Bole, *&c.)* volatile Salts, and the like, Bliſters and *Suppedanea* externally, are preſcrib'd. I ſhall annex a ſhort Explication of *Hyppocrates*'s *Aphoriſm* 29. *Section* 2. and bid adieu to this copious Subject: *Incipientibus morbis, ſi quid movendum videtur, move; vigentibus autem, quieſcere melius eſt.* Where there are any Signs of a *Turgeſcence*, (as where the Humours [ὀρμᾶσι] run impetuouſly, and are like to fix npon any noble *Viſcus*; where there is a Tenuity and Separation, where there is any Malignity or Peſtilence, and where they are plentiful,) then Evacuations are requir'd; only remember that ſuch Purgatives are not to be given in any time of the Fever, as may produce any Effects beyond the Canal of the Stomach and Inteſtines. The Reaſon of which is ſo obvious to any thinking Perſon, that I need not annex it. You ſee I have chalk'd out the Reaſon why I have always excepted the *Plague*, from the Management above named: But I ſhall add, that where the Humours in ſuch a Diſeaſe are ſo thin that they will not cohere, the Spirits are in the utmoſt Danger of Evaporation; as in the contrary State, where the Humours and Blood cohere ſo violently, that they are immediately render'd incapable to obey the Propulſion of the Heart, there is no leiſure for Preparatives, and the limits of our Choice are wonderfully narrow'd; ſo that the Procedure muſt of Courſe be haſty, and they are beſt expell'd with ſpecificated Diaphoreticks, by the Conſent of all Ages.

Ages. As to the particular Fevers, they are all terminated *Criticando*, (to uſe *Cornax*'s Term:) So that each Place has its particular Port for Evacuation; the Head by Hæmorrhages; the Veſſels by Sweat; the *Uterus*, by the *Menſtrua*, &c.

The Diſcovery of the *Bark of Peru* has furniſhed us with an Indication never till then dreamt on; which I may call a *Period*, though I mean the Remiſſion of that Period only. So that not only Intermiſſions of Agues, and the Remiſſions of Putrids, but alſo periodical Diſorders, ſuch as Convulſions, dry Aſthma's, and Epilepſies, receive Advantage by the Adminiſtration of this Drug; and all Evacuations of Humours that depend on a Febrile Ferment, ſuch as *Hæmoptoe's*, the immoderate Flux of the *Menſes*, aud ſuch like. But this being ſo undoubted and ſo known a Truth, I ſhall proceed to another Head.

As the Laws of Circulation now ſtand, we often are obliged to have Regard to *the Hurry of the Humours*, (abſtracting from all other Conſiderations,) *with a wrong Determination.*

Where they flow with Violence to any particular Part, ſo as to endanger the Patient's Life immediately; as we ſee it happen in all ſorts of *Irritations*, ſuch as Pains, Coughs, Eruptions, Convulſions, *Diarrhœa's*, and ſuch-like. *In all Inflammatory Obſtructions*, ſuch as Pleuriſies, *Ophthalmia's*, &c. *In every Anomaly*, ſuch as Retreating Gouts, Itches repell'd, *&c.* *In Inſalubrious Metaſtaſes*, &c. In all theſe, and ſuch-like, one conſtant Indication is *turning the Current of the Motion to an oppoſite Goal*, which is done by the proper *Stimuli* applied or adminiſter'd according to the following Standard, *viz.* by an univerſal or a particular Revulſion; *when the Motion offends in a violent Manner*, the larger Veſſels are to be open'd on the contrary Side. And

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the other general Revulſives are to be uſed; *when the Motion is in ſome meaſure allay'd*, Derivation (or Revulſion to a near, though contrary Part) is ſufficient; and *when the Humour flows in no more, but is impacted in the Part*, we muſt then uſe particular Evacuation (ſuch is opening the Vein of the Forehead in a Pain of the fore-part of the Head.) As to the Number of Ways this can be done; as to the Cauſe of this vitiated Motion of our Fluids; as to the particular and ſpecifick *Stimuli*; as to contra-indicated Revulſives; as to the Seaſon of uſing Revulſives; as to Rules and Seaſon of particular Evacuations; I hope 'tis not expected I ſhould now detail them.

There is an oppoſite Fault in our Fluids to what I come from mentioning; and that is, they frequently are *defective in their Motion, and are ſuppreſs'd (Quiete & Motu Intermiſſo, peccant Humores.)* This the Ancients call'd a Defect of the Expulſive Faculty. I ſhall not enter upon the particular Cauſes of this want of Irritation; but ſhall content my ſelf to mention the general Methods of remedying this Reſt, which is always perform'd by *Irritation*. But as each Part has ſome Conditions annex'd to produce this Change, ſo one Specifick here will not ſerve the Turn; but in *Aſtriction*, all ſaline, bitter, and other *Encoproticks* are requir'd. *In a Retention of Urine*, the different Species of Diureticks are to be given, and the continent Cauſe is always remov'd by a Catheter. *In a habitual Vomiting ſuppreſs'd*, gentle Emeticks, or what will carry it downwards. *In a Suppreſſion of ſpitting of the Lungs*, all the inciding Pectorals, ſuch as *G. Ammon. Flor. Benzoin. Extract. Croc. Milleped. Tinctur. Sulphuris*, &c. *In a Suppreſſon of the Menſes or Lochia*, all the Emmenagogues. *In the Hæmorrhoids ſuppreſſed*, all the irritating *Glandes*; nay, ſometimes gentle Cauſticks rubb'd on, ſuch as Fig Leaves, *&c. In Ulcers ſuppreſs'd*, Cauſticks, Bli-

ſters, *&c.* near the Place, as alſo Netling, *&c.* This I look on to be enough to give us a Notion of this Head; and therefore I draw my Hand from off the Board.

There is yet one thing remains unmentioned, and that is *Adhæſion of Humours to a Part:* And as it proceeds from this, that whenever any viſcid Particles expos'd to the Air loſe hourly more of their Humidity, and turn into a Cruſt at laſt; ſo they are never looſen'd without the oleaginous Medicaments. This holds true in our *Earwax* ſticking cloſe to the *Meatus Auditorius*, where, by Injections of oily and emollient Medicines, 'tis at laſt looſen'd, and thrown out. So it often happens in dry Conſtitutions that the *Fæces* ſtick cloſe to the *Plicæ* of the *Inteſtines*, which are beſt and ſafeſt looſen'd by oily Medicines, (by the Mouth and *Anus.*) This is yet moſt of all remarkable in the Lungs, where the violent Adhæſion of viſcous Phlegm requires vaſt Force and frequent Impulſes to ſhake it from the Fibres it ſtrongly adheres to, and which is not in this Caſe promoted one *Iota* by the Inciding Medicines in the whole *Materia Medica*; nay, it were well if I could ſay they did no Prejudice in this ſort of Adhæſion; but once let them take plentifully of the oily *Linctus's:* They glib the Orifices, and by leſſening the Adhæſion; the Spit, which before fatigu'd the Patient almoſt to Death, obeys each Shock of the Breaſt and Lungs, and comes eaſily up.

Having thus in ſhort given you a Sketch of the Indicants that naturally ariſe from the Conſideration of Fluid Parts, I ſhall proceed to give you a little Detail on the Conſiſtent and Solid Parts.

Though it be a great Truth that the conſiſtent Parts only are vitiated ſecondarily from the *Vitia* in the Fluids; yet it is not my Buſineſs here to diſpute how the Parts come to be affected by ſuch depraved Juices, for that Phyſicians are never called on

to

to prevent ſuch beginning Vitiations; and therefore I ſhall here only conſider them already bred.

When any *Mouths of the Veſſels are open'd, or even eroded*, there ariſes an Indication to make uſe of all Stipticks or agglutinative Medicines, and if *external*, of Catheteticks, to ſhut and contract, or criſpate the Orifices. Whatever Medicines have not ſome one of theſe Powers, their Operation then is only accidental: So that Crabs-eyes or (which is more porous, and more effectually works, as 'tis ſpecifically lighter) burnt-Hartſhorn can only curb a *Diarrhœa*, as they abſorb the Humidities or Acidities that occaſion this Irritation and Evacuation. Having follow'd the Advice of a great Man in uſing a *Suffitus* of *Calx viva* on Vinegar in an *Hæmoptoe*, (where all Medicines prov'd ineffectual, and where the Stream was ſo copious, that immediate Death muſt have been uſher'd in by it,) with a ſurprizing Succeſs; I begun to make Inquiry whether the Steam were not ſome-what catheretick, or what other quality it acted by; I found that there was a Styptcity when Lime and Water were permitted to evaporate into a Recipient. And as to the Vinegar, there is no Queſtion how much its Spirit, though diluted with its Phlegm, is ſtiptick: But I can hardly believe but the Ebullition had ſnatch'd up ſome ſmall Particles of the Lime it ſelf, which made it ſo immediately ſucceſsful. If I am ask'd how *Riverius*'s Mixture of *Sal. Abſinth.* and *Succ. Limon.* as alſo how *Opiates*, and ſeveral other *Arcana*, made uſe of in Evacuations, produce their Effects, if the above named ſhould (as they do often) fail? I ſhall anſwer 'em, That Diſeaſes ſeldom are the ſame in Individuals, and that I am now only mentioning Indications ſeparated and abſtracted from any complex *Idea*, and leave each to his Reaſon to guide him in the Neceſſity of Choice.

It ſometimes happens that *Fat or ſome fleſhy Subſtance, ſuch as* Polypi *in the Heart or Arteries,* bung up the Paſſages irremediably; for where they are *External,* if Diſcutients and Emollients fail of their Effect, corroding Medicines, or the Knife, or Fire, will eradicate them; which, however, are ſafeſt neglected where they are affix'd to any Tendon or great Artery: So the *Cauda Equina* and *Tentigo* in Women are either diſperſed; or if more fix'd, then Burnt-Allom or *Ægyptiacum* are good, or the Knife (which is more eaſily done, to the Timorous, by a Horſe-hair ty'd a-round it.) If *Fat* ſtop the Circulation about the Heart, the only Relief, which is very ſmall, is knocking the Breaſt after a full Inſpiration. *Foreſtus* commends in *a Sarcoma of the Teſtis, Ciner. Sermentac. Nitr. aq. imbut. & induct. L.* 26. *Obſ.* 18.

If the Parts unite that ought naturally to be diſjoin'd, we muſt take a ſhort View how far they are remediable. I remember to have ſeen a Child which I was call'd to, who paſs'd the *Meconium* through the *Vagina,* the *Anus* being imperforated; I began to conſider whether the inteſtinal *Duct* was continued to the *Foramen,* or terminated at the uſual Place of Perforation, which I look'd upon to be the *Cynoſura,* to determine me: As far as I remember, I believ'd the Sphincter terminated at the *Anus,* and I did accordingly give the Surgeon Directions to obſerve narrowly whether the Aperture might not be made there: What was done I never had a ſecond Opportunity to obſerve. But I muſt add, that whereas it is commonly ſaid (without any Reſtriction) ſuch an Imperforation is not to be medled withal; I muſt beg leave to diſſent from theſe Gentlemen; for if the Sphincter terminate at the *Anus,* and the Canal be no part of it, nothing can be ſafelier attempted; and if it be a part of it, yet 'tis not very difficult to contrive an eaſy Method to accompliſh

accompliſh the Task; which I ſhall mention, if ever I have farther Leiſure to put my Papers into Order. Under this Head the *Adhæſion of the Lungs to the Pleura* is to be conſider'd, which can be remedy'd, if not too ſtrong, by the violent Motion of the Arms, and Breaſt, ſtrong Expirations, and oily Medicines internally; unleſs you are willing to follow *Hyppocrates* his Advice in the matter, in opening at the Point of Adhæſion, and by thruſting in a Pipe, to which a Bladder is fix'd, and blowing up the Bladder, to deſtroy the Coaleſcence: But having hinted at this, I ſhall paſs to another Paragraph.

An *Atonia*, or a *Laxity*, is the Baſis of many Diſorders, as the learned *Baglivi* has ſufficiently made out in his *L. de Fibrâ motrice*, 'tis reliev'd by all the Aromatick and Stiptick Drugs; the firſt of which evaporate the Humidities, whilſt the others contract them into a narrower Compaſs: 'Tis upon this Head *Biondi's Pills* have been found a mighty Secret in the *Vertigo*: 'Tis for this ſame Reaſon that the *Tinctura Lunæ* is ſo uſeful in the Loſs of Memory: So in the Relaxation of the *Phrenick Nerve*, we find Stipticks advis'd, and even an Injection of them after Section. The Laxity of the Glands of the *Uterus* in the *Fluor Albus* is reliev'd by the abovenamed Medicines. The *Turks*, after their *Baſtonading*, find Alcanet a ſovereign Remedy. If a *Softneſs of the Junture of the* Sutures *in Children remain long after the Birth*, 'tis amended by Aromaticks, Sulphur and Nitre. In a *Tympany* (which I take to be the *Hydrops Epiploicus*, and which I have upon Diſſection ſeen,) where the Danger is in ſpilling the Contents into the Cavity of the *Abdomen*, which turns it to an *Aſcites*; for as a *Vomica* is leſs dangerous than an original *Phthiſis*, becauſe the *Cyſtis* the Matter is contain'd in, is between the Lungs and the *Pus*; ſo a *Tympanites* is leſs ſudden than an *Aſcites*, where the Tu-

nicks of the *Omentum* keep the Lymph from immediately affecting the *Viscera*. In a Tympany, I say, to hinder this Effusion, we find *Vitriolum Martis* commended internally, as also *Spir. Sal. Coagulat. in Aq. Cerasi. nig.* C. and externally cool Fomentations of Nitre and such-like; we also find *Lusitanus L.* 2. *Obs.* 48 commending the Spaw's near *Liege*, which, whether he means the *Savinir* or *Pauhont*, have a Stipticity in them as they are Chalybeate; and modern Experience instructs us that our *Tunbridge*-Waters are useful in this lax Habit, which dispose's to a Dropsy. But enough of this Head.

The next Head is *Obstructions*, which was us'd (to any who has been vers'd in reading the Antients) to be the *Asylum* in all unknown Distempers, and to say the Truth, modern Physicians fall little short of the same *Jargon*. It is to be own'd the commonest Cause of these Disorders, but not the only. The several Tumours depend on this Head; so do Apoplexies, Palsies, and such-like: So that Volumns are compil'd on this one Indicant, all which are a *Crambe repetita*. In general, all the fixt and volatile Salts, all the acrimonious and bitter Plants, all the heavy mineral Preparations are here useful; such are *Sal. vol. oleosum*, *Sp.* C. C. &c. *Sal. Genist. Juniper*, &c. *Rad. Raphan. rustican. Gentian*, &c. *Æthiops mineral. Chalybeates in Filings or Infusion, Antim. Diaphoretic.* &c. *Sem. Sinap.* &c But as it depends on a State of Blood producing it, and in this sense is a *compound Indicant*; if then it depend, as *Baglivi* observes, on an exalted State of Humours, where the Fibres are therefore obstructed, because wrinkled by the excessive Heat, we are accordingly oblig'd to act with a *complex Intention* to open, yet cool; which in themselves are a seeming Contradiction, yet easily reconciled to daily Experience. In this Case 'tis observable, that

that Spaw-Waters that are *Chalybeate*, cool; and yet deobſtruct gently in Palſies from Bilious Cholicks; and I have in this Caſe ſeen promiſing Effects from *Vitriolum Martis*, *Sal. prunell.* and Decoctions of *Santalum*. In external Caſes, Repellents, Diſcutients, Emollients, and Suppuratives are the Complement of Applications; but *where the Impaction is ſtrong* we proceed to *Sinapiſmi*, Bliſters, Cauſticks, Apertion, and Section; particularly where the Obſtruction is total; ſo that none of the Juices can recirculate, as is the Caſe of Gangrenes. Should I annex all the Cautions hereunto belonging, it would ſwell into more Pages than I have Leiſure to write; and it muſt be conſider'd that this is deſign'd only as a Sketch of a larger Tract.

The Stone of the ſeveral Parts of our Body, is an Effect that deſerves a ſerious Diſcuſſion; how they petrify we need only conſult the ſeveral petrifying Waters, and conſider what is obſerveable in them. I remember about 17 Years ago to have met with one of this kind in *Northumberland*, on the South-ſide of the River *Alne*, over-againſt a Place call'd *Hawkwell* near *Alnewick*; where, from the South, there runs a Rivulet into the River; 'tis towards the Eaſt-ſide of this Brook, about One hundred Yards or two and upwards on the Bank-ſide, there I remark'd the Fountain perfectly clear and ſweet, and in running down it leaves jelly'd Icicles, and all the little Plants in its Way are cruſted with Stone: If the Particles of Stone in this Water were not very minute, they would ſubſide and be viſible; but being, as I may ſay, *in ſolutis principiis*, they cohere in their Courſe into a Subſtance, which, when the Humidity is perfectly exhal'd, is Stone: Upon Coction of two Quarts, there were not a Grain or two Weight of a white Sand at Bottom. 'Tis doubtleſs thus in human Bodies that Stones cohere, and as the Heat in Bo-

dies helps to exhale, and the Remora's to Motion make them approach, they ſooner harden, and turn to Stone. I can ſay little farther to the Preſervative's, than that Bitters, and ſuch as will hinder Congelation, may probably concur to make this Lapidifick Matter paſs off in *Solutis principiis*: 'Tis ſaid the *Indians* never heard of ſuch a Diſeaſe, and that this is owing to their drinking of Thea; but I believe I may add that there may be ſome Doubt that our Waters even in Thea-Drinkers are not quite ſo clear of ſtony Particles as theirs may be; but this being Conjecture, I leave it. Whenever the Stone has no Paſſage for its Expulſion, nothing can follow but inevitable Death: But in ſuch Places as we can reach it, a double Indication ariſes; the one is *glibbing the Paſſages*, and the other is *giving a ſhock to the containing Parts*. But the firſt belonging to another Head, I ſhall not anticipate my Obſervations, but here ſhall remark that Emeticks, Catharticks, and Diureticks, Sneezing, Riding, Jumping and ſuch-like, are *what expel it from the Kidney's*; *in the Bladder*, Diureticks or Lithotomy; *in the Stomach*, Emeticks, Catharticks, and acid Lethontripticks; and in ſhort, Expellents in all Senſes. I cannot paſs by one Obſervation of an ingenious Phyſician, whoſe Practice my Father had for ſome Years the conſtant Inſight of; he told me that the Doctors Preſervative againſt the Stone, was, common Salt for Breakfaſt; which *Helmont* alſo praiſes.

Many and diſmal are the Effects of *Worms*; ſo that *Pechlin*, *p.* 160. ſays, *Nullum tam peregrinum eſſe ſymptoma, tamque* Δαιμονιακὸν, *quod vermes excitare non poſſint*; the Cure of which *Morellus* tells us, is thus perform'd, *Quæcunque qualitate vel manifeſtâ ut acrimoniâ, amaritudine, ſalſedine, vel aciditate, quos ſapores lumbrici faſtidiunt, vel occultâ potiuntur*, are ſuch as kill them: Hence Juice

of

of Lemons, *Sp. Sulphur*, Salt, *Sem. Santonic. Æthiops miner. Corallin. Ens Veneris, &c.* in what Forms beſt pleaſe the Patient; after which expel them with proper Medicines. It would be proper under this Paragraph to mention the peculiar Remedies, but that the Brevity of this will not allow of it: For other Live Animals, ſuch as *Leeches anywhere*, they are beſt kill'd by Salt-water: For the *Ton* and *Dracunculi*, they are not the Produce of our Clime, nor can I ſtay to inſtance farther of them.

The next Head I am to mention, is, *Extraneous Bodies plac'd within us, or on the Surface of us:* And altho' I ſpoke againſt Indications taken from Procatarctick Cauſes; yet, I muſt here add, that I then only ſpoke of the external Procatarctick, and not the internal. I am ſenſible that *Poiſons* have a complex Indication; yet, I believe it will be pardonable to omit that Nicety, and ſpeak of 'em all under one Head, and not ſeparately, as I deſign'd to have done. It is remark'd in general, that they are carried off by that Port they entred at: After which you are to ſpecificate the Antidotes, ſo that Antimonials, after ſufficient waſhing of the Stomach, are to be precipitated by a little Salt, which effectually curbs any farther Effects from them: *Arſenick* requires *Sal Tartar*; *Mercury Sublimate* alcalines, but more eſpecially (being ſoluble) in warm Water. A good quantity of that given, waſhes it off, and takes off all Effects from it. I muſt add, that great Haſte muſt be made in ſuch Caſes; ſo that Arſenick, after 3 or 4 Hours, is irremediable, as I had the Experience of, in a poor Miſcreant, who believing the World was weary of him, took a Doſe of this Poiſon at Nine in the Morning; the Apothecary who ſold him it being call'd, deſired I would favour him with my Aſſiſtance, at One: We gave him Diluents, Oils, and whatever we had near to us, to make him vomit plentifully, which he did; and having

having view'd narrowly what he threw off, and having not been able to obſerve any Particles ſubſide; we then gave him Sal-Tartar in Water, and made him drink of it in a plentiful manner, but in vain; for he began to have violent Tremors upon him, and dy'd convulſive at Nine next Morning. Upon Opening him, 'twas obſervable that the Stomach and Inteſtines were ſo tender, that they would hardly bear the Touch without tearing; and the Vomiting and Waſhing made it plain to us that there was not the Quantity of a Grain of the Arſenick on the Stomach and Inteſtines; but they were gangren'd in many Places to the breadth of a Shilling, which appear'd the plainlier, becauſe all the *Mucus* was thrown off. There is one Quære to be propos'd; I remember that *Konig*, in his *Regn. Mineral.* ſays of *Arſenick*, that 'tis ſoluble in Water; if ſo, 'tis much this Fellow ſhould not have been cur'd, who, immediately upon taking the Poiſon, laid himſelf flat upon his Belly, and drank what he could bear from the River itſelf. As to the *Bites of Poiſonous Animals*, you are oblig'd to ſcarify, burn, and whatever will call out the Poiſon, fixt then only on the Surface, and give all the proper Alteratives internally.

Whoever have the Misfortune to have only Share of the Poiſon evacuated, often ſuffer for it all their Lives afterwards; an Example of which I remember to have ſeen in an *Italian* Soldier at a *French* Univerſity, who had been bit by a *Tarantula*; every Summer he was ſeiz'd with a Return of the ſame Symptoms, as if he had been newly bit; ſo that in the Year 1693, he ſunk down as dead, whenever the Guitarr was not play'd on; and at beginning of the Tune again, he ſtretch'd himſelf, and gradually roſe, and friſk'd and danc'd after an odd and awkward manner; which, I do aſſure you, little pleas'd me; and thus he continued for Seven or Eight

Eight Days, till a Jaundice appear'd, and clear'd him of his Malady for that Year. As to other extraneous Bodies in the Eyes, Ears, Noſe, *Vagina*, and other Parts, I hope the intended Brevity of this Book will plead me an Exemption of farther Trouble on theſe Particulars: Only I ſhall note, that Effects of venemous Fumes are here alſo to be amended; ſo that we may correct *Mercurial ones*, by fix'd and volatile Salts; thoſe from *Lead*, by a Tincture of *Hædera terreſtris*, ſays Mr. *Boyle*; thoſe from *Coal-Mines* are prevented by a plentiful Affuſion of Water, but internally by Vinegar and Caſtor, ſays *Etmuller*, and ſo of the reſt.

As for the *Want of any Member*, there is no Remedy, ſave ſome mechanical Inventions for ſome few Caſes, ſuch as Glaſs-Eyes, Spring-Arms and Legs, unleſs ſome *Talicotians* will plead for farther; but where any internal Part is cut, ſuch as a Nerve, there is no Remedy.

Where-ever the *Parts are larger* than naturally they ſhould, where I would be underſtood to take the Word *large* to denote any Increaſe of Dimenſion; in ſuch a Caſe Stipticks, Ligatures, and ſuch things are made uſe of: So in a *Mydriaſis*, *Foreſtus* adviſes Roſes, Mint, Spikenard, *&c.* Pomphilix acacia, *&c.* for Troches; ſo in the Ῥῆγμα an Injection of Stipticks are advis'd; internal *Aneuriſms*, whether of the Lungs, Neck, Teſtes, or elſewhere, *Terra Japonica* is commended. In the *Cole longiori*, *Hildanus* commends an Invention which you may ſee *c.* 6. *obſ.* 61. So in *vagina largiori*, *Naſcalia* of Stipticks are of Uſe to hide a Crime, or add a neceſſary Condition for Propagation.

The *Teeth* are fil'd *if too long*; and Faults of the Eyes fall under the Conſideration of Spectacle-Makers; and Dr. *Muſgrave* well obſerves, that Apoplexies ariſing from the Veſſels of the Head larger than

than by Nature they ſhould, are help'd by Stipticks.

But where *the Parts are leſs, ſhorter, tenſer, harder, or thicker* than they ſhould by Nature; ſoft, oily, and emollient Medicines are here requiſite; ſo that the Denſity of the Membranes of Infants is to be aided by giving internally oily Medicines, (and ſometimes the Nails and Knife.) *The Hardneſs of the Skin* often hinders the full Eruption of the Small-pox, in which Caſe, whoever will give himſelf the Trouble to turn over the Antients, will find 'em adviſing ſoftning Internals and Topicks.

A Hardneſs of the Veretrum (*Cornu inſtar*) is cur'd by Emollients and gentle Diſcutients in *Luſitan. l.* 2. *Obſ.* 106. *The Criſpature of the Lungs in Hereditary Conſumptions* is beſt provided for by oily and ſmooth Medicines. *The Hardneſs of the Os uteri internum* is amended by greaſie Unguents and emollient Fomentations. *The Conſtriction of the Glottis* is help'd by an Application of Milk, Yolks of Eggs, and Sugar, according to *Barbette*, *Anatom. Practic. c.* 4. *The Inflexibility of the Os Coccygis in Old Women*, which much impedes an eaſy Labour, is, according to *Sylvius*, *p.* 552, amended by a Suffitus of Roots of Althæa and its Leaves, Mallow-leaves, Tops of Melilot, Fænugreek, and Line-ſeed in Water. *The Smallneſs of the Ureters* is aſſiſted, as I have often experienc'd, with emollient Baths, Glyſters, Linctus's, and external Unctions; and if the *urinary Paſſage, or the Orifice at the Sphincter* be leſs than uſual, if theſe Medicines have not their Effect, then Recourſe may be had to *Mayern*'s or the *Ægyptian* Method. *If the Parts be ſo tenſe that they are us'd to crack*, as it often happens in fiſſur'd Breaſts, or in Women with Child, then oily Medicines are the Advice of *Bonetus* and *Etmuller*. Thus I have given a Sketch of this Head.

When

When the *Site or Connexion of the Parts are chang'd*, Reduction is to be attempted by ſeveral Methods; ſo in the *Iliac Paſſion* the Complication is unty'd by Mercury in Subſtance, or the Bellows, or the Operation; ſo the *Lordoſis* and *Cuphoſis* are cur'd, if freſh, by Extenſion, and as in ordinary Laxations: This being moſtly the Province of Surgeons, I ſhall only add ſome few, but uſeful Remarks on the Variety of Births. *In all Poſtures from the Vertex to the Acromium*, you are to deliver by the Head: *In all Poſtures from the Acromium to the Feet*, you are to deliver by the Feet. *Whatever the Poſture be, if the Funiculus or Placenta are hanging out of the Vagina*, you muſt deliver by the Feet, unleſs the Child is fix'd. *The Noſe of the Child* muſt look to the Back of the Laborant. *Whereever the Fœtus is to be thruſt back into the Uterus, whatever the Poſture be, or whatever Part preſents*, the *Nates* are to be plac'd above the Head and Breaſt.

Irritation is what gives the Phyſician double the Credit to what any other Indicant does; for under this Head fall Vomitings, Coughs, Diarrhœa's, Pains, and many more troubleſome Diſorders, which are not ſuppos'd or dreamt of, by the ordinary Herd of the Faculty, to retain to it. So we ſee that *exceſſive Hunger* is allay'd by Opiates; ſo is *Salacity* an Irritation which is moſt effectually allay'd by Smooths, and at laſt Opiates. I ſhall in another Place recount the Reaſon why the *Turks*, at the Battle of *Levenz*, dy'd *Haſtis erectis*. *Convulſions* are not allay'd without Opiates, but they being compounded of many Cauſes, I may have an Opportunity, in the Cloſe of this Diſcourſe, to mention more of them. So moſtly, in this Caſe, *Opiates* are requir'd, which have different Names given 'em, as the Species of Irritation they are to allay, will allow of: Hence they are called *Anodynes*,

when

when Pains are to be allay'd; *Narcoticks*, when ſome Part is to be benumb'd; *Paregoricks*, (ab ἀγορέω, *concionari & conſolor*, in a Metaphorical Senſe;) *Hypnoticks*, when Sleep is to be their Effects. To expatiate on this Indicant would be too tedious for my preſent Aim; and therefore I ſhall only remark, that ſome *Irritations being critical*, cannot be ſuppoſed to belong to this Paragraph, unleſs they be unbearable; ſuch are the Pains of Labour, Pains of the Gout, *&c.* which require ſuch Things as will promote, inſtead of allaying them. As to many other Indications ariſing in the Cure of Irritations, they belonging to other Heads, are not the Conſideration of this Remark.

Ulcers, are what require in general *four Indications*; *Evacuation*, *Mundification*, *Exiccation*, and *Cicatrization*; beſides and internal Corrigents of the peculiar Acrimony reigning in the Juices: All which are a complex of Cauſes, and ought to be referr'd to other Heads; but my Leiſure not allowing me to be ſo nice at preſent, I believe it ſufficient here, to mention ſome few Examples, to illuſtrate what I have advanc'd, and ſo take leave of this *Compound Indicant*. In a *Gonorrhœa virulenta*, we give Purgatives of Caſſia, Rheubarb, Cream of Tartar, *Mercurius dulcis*, and ſuch-like, for three or four times; after which, we uſe, for a Month or ſix Weeks, or longer, if occaſion require, Balſamicks of Turpentine, G. Guaiac. Balſ. Copaibæ, Rheubarb, and ſuch-like; the firſt deterge and cleanſe the Part; whilſt the latter dry the Ulcer: For the latter Intention we often uſe Injections of *Mercurius dulcis*, Lime-water, Honey of Roſes, or the Decoctions of Roſes, Sac. Saturn. and Mel Roſar. In *Ulcers of the Kidnies* after due Evacuations, I have found *Sydenham*'s Pills of *Flos Unguentor.* along with ij or iij Grains of *Mercurius dulcis* every Day in Roſe-water, effectual. In *Ulcers of the Bladder*, *Groenvelt*'s

velt's Method of *Cantharides* deterges; after which *Terebinthinates*, and gentle Medicines of Coral, Amber, and such Exiccants, are advisable. In *Venereal Ulcers of the Mouth* (where the Palate is not Carious) after proper Purgatives, either touching 'em with *Mercurial* Water, or a Suffitus of Cinnabar, to dry them, are useful. I have known a Salivation rais'd by a Suffitus with Cinnabar, cure an Ulcer of the *Uterus*. *In Fissures of the Breasts*, Minium and Nut-Oil was made a Secret of by a Midwife I communicated it to. *In an Ulcer of the Intestines*, Terebinthinates are in use. As to *Abscesses*, after they are open'd, you treat 'em as common Ulcers, tho' the condition of the Parts as to Moisture, oftentimes makes us change our Mundificants for Exiccants; all *Critical Tumors* being an evacuation of Venenous Particles, are to be promoted to break; and if they lie out of our Road to get any thing apply'd to 'em, as they do in the Body of the *Uterus*, we however can treat 'em with a plentiful Diet, and Sternutatories conduce much to this End. *Excoriations*, are healed by Exiccants only; so those of the *Scrotum*, *Foreſtus*, *L.* 7. *Obs.* 39. *in Scholio*, Cures by Unguent de Ceruss. and Lithargyr. External Ulcers are treated in the same manner.

Wounds, have a double Indication; for either they may immediately be united by the Suture, or the dry Stitch and an Emplaster notch'd for that End; or by Deterfives, Mundificants, Sarcoticks and Epuloticks: *Discreet Surgeons* chuse the latter Method, not because it's safer only, but for other Reasons best known to the Operators. The Medicines made use of for these Ends, being repeated in every Author *ad Nauseam*, I shall only hint at a Wound of a *Lymphatick*, which ordinarily turns Sinuous, as was evident to me in one I was call'd to; every Dressing, the Surgeon took out a Spoonful or two of *Jelly*; but at last with great Care and many Operations, it

was

was heal'd in a quarter of a Year. For any Caſe in this kind, G. Lacc. and Moſs of a Man's Skull mix'd and thrown in, are look'd on as a Secret.

Laſtly, It happens there is a *Scurffineſs and Roughneſs of the Parts*, which after due Evacuations, (which are to be proportioned according to the degree of Obſtinacy) and the application of ſome gentle Stipticks, Vitriol, Allom, Juice of Limons, Litharge, Vinegar, Lapathum acutum, and Mercurials, *&c.* externally, are carry'd off.

Having run through all the *vitia of the Fluids and Solids*, I can't in Juſtice omit one Thing, which yet I believe very rare, and that is *Faſcination*; 'tis according to *Zacutus Luſitanus*, *L.* 3. *Obſ.* 134. call'd *Morbus trans Naturam*: Whatever my Opinion is on this Affair, I can only add two Things, and that is, ſhould I ever find any one performing Actions beyond the reach of Nature, either as to the Affections of the Body or Soul, I muſt conclude 'em under the Power of ſomething beyond the reach of Nature: So that when the ἀφιλοσοφοὶ, or the ἄμουσοι talk Wiſely, and diſcourſe Nervouſly, or when the ἀκίνητοι friſk and move themſelves beyond the ordinary Actions of Mankind, we may conclude 'em (and then only) under a Faſcination; but what Medicine has to do in this Affair, I frankly confeſs, I have never learn'd: If indeed the Effects produc'd by ſuch a Caſe, are the alteration of the Juices, I believe Drugs may then produce great and good Effects; but when the *Fancy is Obſeſs'd*, 'tis Folly to ſtretch the Medical Art beyond its Limits; and therefore *Natural Religion* obliging us to acknowledge a Supreme Being, we muſt neceſſarily ſubmit to own the Permiſſions of that Being give riſe to ſurprizing *Phænomena*, not at all falling under the conſideration of Art, and therefore neceſſarily the Province of another and very different *Species* of *Juriſdiction*, and (to be ſincere) under the Direction

Direction of the Divine Miniſtry; where the Hand of Man is ſhortned, and the Glory of the Higheſt is exalted: In this we do but follow the Steps made in Scripture, where the Δαιμωνιαχὸς was not Cur'd, but by the Hand of our Bleſſed Saviour. I am not ignorant the Divines ſay it was an Epileptick Perſon; yet we muſt believe the Expreſſion, and Juſtice can be done, by believing it rais'd by the Devil.

Thus have I in a ſhort Sketch, given you an imperfect Index of Indicants; to which, if I ſhould add the Εὐοδία *Medicorum*, I ſhall have given ſufficient Proofs of the Uſefulneſs of this Method, beyond all the imaginary and fancy'd ones of the *Students of Phyſick and Aſtrology*: But as my Deſign is no other than to whet the Reader to a further Enquiry, it muſt only be expected that I ſhall juſt hint at the Particulars I reſerve for a fitter Seaſon; where what I have advanc'd, ſhall be made evident to Demonſtration, through the whole Body of Practice.

All Cures, ſays *Hippocrates*, are done by Addition and Subſtraction; and that *Contrariety* is the general Baſis of the Art of Phyſick: and this the ſame *Divine Coan* terms ἀναπλήωσις, which he underſtands as well in Diet as Drugs, *Aphor.* 22. *Sect.* 2. and *L. Epid.6. Sect.*8. §. 46. This Addition of ſomething wanting; and Subſtraction of what is too much, is an Argument that the Cauſes are to be taken away in the Cure of Diſeaſes. Let us take a ſhort View then of the Cauſes that are to direct us in our Courſe.

There are three Cauſes; firſt the *External Evident*, or *Procatarctick* (call'd alſo the προηγουμένη); which having left nothing fix'd upon us, only requires avoiding of 'em; ſo in a *furor uterinus*, we muſt take care that the Fire be not fed by the Preſence of what is the Subject of the Appetite: for ἐκ τοῦ ὁρᾶν γίνεται τὸ ἐρᾶν. So in Peſtilential Caſes, we muſt a-

void the occaſion; *citò, diù, tardè, eundo, morando, redeundo.* Having ſhew'd above, how little this Cauſe is to be regarded in guiding us how to Cure, I ſhall proceed to the reſt.

The next Cauſes are the *Antecedent*, by which I mean the deprav'd Humours in the Body, endow'd with a Power upon any occaſion given to produce very dangerous Symptoms; and ſuch is the Viſcid in a Pleuriſy; ſuch are Bilious Humours in a *Colick*; ſuch are Salt Humors in a Conſumption. *The Continent*, is the *Antecedent acting*; ſo the Salt Humours fix'd in the Lungs, are this Cauſe; *Pus* in an Abſceſs; Water in the Cavities in Dropſies; *Venenum* lodging in the Stomach; and Urine in the Bladder in a true and genuine Iſchury; all theſe, I ſay, are *Continent Cauſes*, or in other Terms, *the Immediate Cauſe*.

In general then, Diſeaſes muſt be cur'd by remedying the Cauſes in ſuch order as they began, unleſs ſome great Reaſon oblige us to alter this Method: The Internal fix'd Cauſes are remedy'd by *Evacuation*, (under which Head I reckon *Tranſlation*) and *Alteration*: *Evacuations* are Emeticks, Catharticks, Diaphoreticks, Diureticks, *&c.* *Tranſlations* are all the Revulſions we make uſe of. *Alteratives* are of two ſorts; but both being contrary to the Cauſe, I need not now mention their Difference: But it ſometimes happens that Diſeaſes are irremediable; and yet we are, for the Comfort of the Sick, oblig'd to Patch for a while, by remedying ſuch Symptoms as wou'd deſtroy the Patient of themſelves: So in an incurable ſuppreſſion of the *Menſes* from a Tumor, we are, according to *Sennertus. L.* 3. *C.* 3. oblig'd frequently to Bleed, to prevent the real or metaphorical Plenitude in the Blood, from whence many dreadful Symptoms ariſe. When I ſpeak of Alteratives, I would not be underſtood to confine myſelf to the Internal ones only, but wou'd have my Views extended to Topicks too.

This

This general Order holds good where the Symptoms ſupervening are gentle and ſlight, for then the taking away the Antecedent Cauſe, relieves, nay cures; but when the Symptoms, proceeding from the immediate Cauſe, are Violent, then are we oblig'd to have regard to theſe Symptoms by remedying their Cauſes; thus *Agoniſtical Criſes* are not to be ſuppreſs'd, tho' not promoted, for that they often Cure, or pave the way for it; but we are often oblig'd to have regard to the Symptoms when Violent, even before we can remedy the precedent Cauſes. So that in an *Iliack Paſſion*, before the Obſtruction of the *Inteſtinal Fæces* can be remov'd, we are often oblig'd to amend the Vomiting by allaying its immediate Cauſe (*viz.* the *Irritation.*) What I here ſay of one immediate Cauſe, I would be alike underſtood if there be more, as in an *Hæmoptoe* from acrimonious Humours, the *Acrimony* and the *Meatus apertus*, are two immediate Cauſes or Effects (for I have hinted at my Reaſons for this above) the firſt of which require ſmooth and obtunding Medicines, the latter Stipticks and Agglutinants. And as an immediate Cauſe requires our Care ſometimes even to the neglecting its Original; ſo one immediate Cauſe ſometimes over-ballances another in like manner: From the imminent Danger of which, we are to ſteer our Courſe.

I ſhould, to the general Method, have added the meaſures us'd in *Criſes*, for that they appertain to Evacuation, or Tranſlation: They are to be promoted ſo long as they are Critical only (then *Liberali ac Liberâ expurgatione* ὡτομάτως *quieſcunt*) for when they ceaſe to be ſo, they deſervedly loſe that Denomination, and are then Symptomatical and remediable by proper Methods nam'd above: But as to the particular Rules they are to be manag'd by, alſo as for mix'd ones, and as to the ſeveral *Metaſtaſes*,

whether Salutary or not, it cannot here be expected I ſhould enter into a Detail of 'em.

So far have I hinted at the Ἐνδεικνεύμενα; I have only one Word or two to add about the Συνενδεικνεύμενα, and the Ἀνενδεικνεύμενα, and I ſhall cloſe my Diſcourſe.

Cauſes, we ſee (for I mention nothing of Diſeaſes, or the Reaſons of thoſe Cauſes) ſometimes Concomitate and Coindicate; ſo that I have ſeen in a certain Lord *a Tertian Colick from an imprudent ſuppreſſion of the Gout*; the Cauſes I look'd upon to ſtand thus; by an application of cold Water to the pained Part the Humours were repell'd and *retain'd* in the Blood, part of which *ranging there*, produc'd this Ague; and another Parcel of it *fix'd on the Inteſtines* produc'd the Pain: This I take to be the Ὅτι, (as for the Διότι, I leave it to trifling Enquirers) of the Malady. Let me now proceed according to Methods I come from mentioning: The *ſtuffing of the Blood with an impure and bilious Plethora*, requir'd Evacuations: The *Infarctus of the Inteſtines with Bile*, alſo coindicated Evacuation: The *Shifting and Period*, requir'd the Bark; *the Pain* requir'd Opiates: And Laſtly, *The Gout's lurking in the Body*, requir'd all the convenient Stimulants to invite it to its proper Station. I look'd upon theſe Heads to direct me in my Courſe I was to take, and having follow'd 'em, I accordingly ſucceeded: Upon conſulting Dr. *Radclyffe* on the Caſe, tho' I recited him every Particular, yet his Anſwer was, that we ſhould forbear any manner of Evacuations; but the lucky diſtance of the Place, made it only evident I ſhould have endanger'd my Patient by ſuch a Method as he was pleas'd to order; but *Quandoque bonus dormitat Homerus*, and his Civil Treatment of me whilſt alive, will oblige me to believe, that 'tis as hard to take a Caſe as a Face, at a diſtance.

When

When Cauſes Claſh with each other, and there is a Contrariety in 'em; I ſhall only mention, 1ſt. *That they are ſometimes ſo far on a Level, as that you muſt take 'em both off equally*: So *in a Palſy, and the immoderate Flux of the Menſes*; If your Intention is to Cure the Palſy, you increaſe the Flux; if, on the other hand, you Cure the *Menſes*, you render the Palſy irremediable; in ſuch a Caſe you muſt blend your Medicines according to the moſt exigence: I remember *Schmidius* mentions the Bark of *Seville* Oranges unripe, boil'd in Water, to curb the *Menſes*; (in which, Dr. *Hamilton* follows him and *Etmuller*); but this Fruit being alſo aromatick, is an Aperient, and did ſometimes alone anſwer the End in this Caſe mention'd: So careful has the Divine Providence been over us, as to blend contrary Qualities in one Plant to contraſt with ſuch contrary Effects in our *Bodies*.

2*dly*. Whenever they are Contrary, and there is any Exceſs on either ſide; if *this Exceſs be ſmall, we muſt have regard to the moſt urgent, and to that which Cures the moſt urgent, tho' they ſuffer a little by it*; *however, having ſome Eye to the contrary Cauſe*. So I remember to have been call'd to a Lady who had a Dropſy in the *Abdomen*, which was of Sixteen Years ſtanding, or more; ſhe was on a ſudden ſeiz'd with a violent Fit of the Stone; having paſs'd a large one, and ſuffering more ſince the delivery of it than before, with Syncope's, and cold Sweats, ſhe had reaſon to believe another was alſo paſſing. I had not much to ſay to that Head; but argu'd that ſhe was yet more dangerouſly held than ſhe imagin'd, and that another *ſpecies* of Diſeaſe had ſeiz'd the Part, which was a beginning Inflammation of that Kidney, and that without Bleeding, it was impoſſible to relieve her; which ſhe yielded not to for an Hour; upon this Head, that ſhe had a Dropſy upon her: But having perſwaded her of the imme-

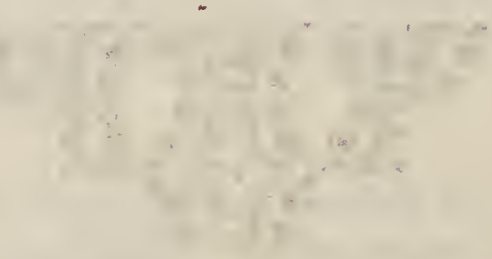
diate Hazard she was under from the Inflammation, and the little Damage I should do her by so small a quantity of Blood drawn off, she consented; and the Apothecary had not drawn off two Ounces till she cry'd aloud she was easy; and by four Ounces taking away in all, and keeping her from heating Diet and Cordials, she recover'd perfectly.

3*dly*. But where the Excess on one side is so apparent, that we must, by indulging 'em in it, kill 'em; 'tis reasonable to give Eye to the most urgent only, and which acts as a Cause, and totally neglect the one. So in a *Lues Venerea* and a *Hectick* (and even Consumptive Cough, where there is no Ulcer) the curing the Hectick avails nothing to the curing the *Lues*, which yet ranges and re-produces the same dire Effects; all which I have taken off by a gentle Salivation, without any regard had to the Hectick. So in an *Hæmoptoe*, where there is danger of *Suffocation*; in this case alone, it is lawful to cause an Expectoration of the Blood, tho' the Suffocation be δεύτερως *agens*; yet it is the most urgent; and in this we follow *Galen*'s Law, *ut Præcedat sanatio ejus quod Causa est, vel magis urget, vel sine quo alterum tolli nequit.*

Thus have I, in as short a manner as I could, made it plain, that the Heads I mention are the only *Bases* to proceed on; and that whoever will range beyond these Bounds, is bewilder'd and plung'd in all the Difficulties that can befall a misled Traveller: Whoever has the Fortune to know what Cause does affect us, many of which are evident to Sense, is the likeliest Person to serve the Republick in his way; but shall conclude, that Prudence must be the Portion to distinguish the Physician from the Empirick, since *La vera Regola, è saper romper le Regole à Tempo & Luogo.*

Thus

Thus have I with ſome unwillingneſs, trod a Path for the good of my Neighbours, which puzzles the Heads of the Thinking World, and yet is in it ſelf Eaſy and Conceivable to the meaneſt Capacities: Why is it otherwiſe that the moſt Learned are not the Beſt and Succeſsful Phyſicians, but that they buſy themſelves in many parts of Literature little, if at all, to their purpoſe? Whoſe good Parts, if employ'd in the advancement of their own Arts, would be ſufficient to build a Profeſſion, much more to give Additions to one long ſince begun. But having ſufficiently tir'd myſelf, I cannot but believe I ſhall give my Reader a Diſtaſt to add to what I have already advanc'd, eſpecially ſince I reſolve, ſome time or other, to Publiſh the *Practical Obſervations*, of which theſe are only an Abridgment.



Criticon Febrium:

OR, A

Critical ESSAY

ON

FEVERS.

CHAP. I.

Of FEVERS in general.

THE design'd Brevity of this Tract cannot be supposed to allow me to expatiate upon the usual Divisions of *Fevers*: In which I fear much Time has often been spent to little Purpose; since it will appear that these Names brought no new Methods of Cure along with them, but left many Doubts upon the Practitioners; and those, when they come to be seriously weighed, very trifling, and such as prove an Amusement to the *Tyro's*, but are nauseous to the Grave and Thinking Part of the Profession. 'Tis an Undertaking which has employed the best Heads of all Ages: And I hope the Reader will do me

me the Favour to excuſe the Attempt by ſo barren a Capacity as mine is, for the ſake of having wiſhed well. I am not for coining fine fram'd *Hypotheſes*, nor for advancing any Thing I dare not rely on as Fact, and ſuch as has been the Reſult of a patient Series of Obſervation for many Years; and, if I ſhould have added, a ſucceſsful Practice, I believe I ſhould not want the Suffrages of ſuch as I have had the Honour to ſerve.

An Unuſual or Preternatural Heat along with a Frequency and Quickneſs of Pulſe, detect a Fever; though as to the immediate Cauſes of one, all are not agreed, as will appear anon, each liking to prate in a Jargon of his own. Α τὸ Θεῖον was the Language of *Hippocrates*; and 'twas a Frankneſs our later Hypothetical Gentlemen have not ſufficiently acquieſc'd in; where, however, the Reaſons given in have little more in them, than alſo calling it a Divine Cauſe. This frank Manner would have ſav'd the Practitioner much uſeleſs Enquiry after the Διότι of Fevers; and yet he would have been far from being left to Chance to have founded his Indications on; ſince in the Diſcovery of the Erring Motions of the Fluids he has his Senſes to rely on, to deſcry ſuch Symptoms as give Riſe to the different Procedures, which is the Ὅτι we look for.

The firſt *Criterion* then by which we diſcover any Feveriſh Diſpoſition, is a Frequency of Pulſe; and therefore the Motion of the Blood is ſuppoſed to be accelerated in Proportion to the Frequency of the Pulſation. However, the Frequency of the Pulſe alone does not conſtitute a Fever, till it degenerate alſo into a Celerity, which naturally happens when the Pulſe riſes to high Numbers. To aſcertain the Nature of a Frequency and Quickneſs, and their Difference, the *Space*, the *Ictus*, and the *Interval* of the Pulſe are to be well remark'd. By the *Space*, we judge of the Strengths of our *Laborant*:

By

By the *Ictus*, we paſs a Judgment of the Modality of the Stroak or Pulſation; but in our preſent Caſe, whether it make any Demurr on the Finger, which denominates it a ſlow Pulſe, or whether, on the contrary, it immediately recedes in a *Syſtole*, which gives it the Appellation of a quick Pulſe: And laſtly, by the *Interval*, we meaſure the muſical Time of its Return, which if ſmall, 'tis a frequent Pulſe. Hence Frequency and Celerity are eaſily diſtinguiſh'd in Notion, but not often too well in Practice.

We may, for Curioſity's ſake, ſee below, whether ſome extraneons and irritating Principles in the Blood don't give Riſe to this Frequency and Celerity, as alſo the unuſual Heat, and how well-grounded it may be to conclude from hence, that the Circulation is haſten'd in Proportion to the *Number of Impulſes*, as is a common Obſervation among ſuch as have conſidered the Laws of Hydroſtaticks, abſtracting from Reſiſtances, which are not the Buſineſs of this Head.

CHAP. II.

The various Sentiments about the immediate Cauſes of the Heat, and the Frequency and Celerity of the Pulſe in Fevers.

THE Ancients ſuppoſe a *Putrefaction* of ſome Parts of the Maſs; and that theſe appear in the Urine of Perſons in a *Criſis*, and paſs off by the Bladder and the Pores of the Skin in critical Sweats, and ſo determine the Struggle between Nature and the Diſeaſe by the Load extirpated.

Others

Others believe it consists in a preternatural Fermentation; and that an Ἀμελέια of its Principles occasions it; and that the Effects of this Fermentation are Dissolution or Coagulation.

Some place the Cause in a *Turbatâ sanguinis Misturâ*; for they find the Urine generally is muddy before Concoction. And when it begins to drop a Sediment, there is Hopes of a Recovery; this being a Sign that Concoction is begun, and that, if we can manage well, Affairs may succeed.

Many believe an Acrimony of the Juices to give Rise to a Fever.

A late Gentleman has advanc'd, That the Breach of the Globules occasions the Spilling of a venenous Air into the Mass, and so disturbs its Order. But this being the Phantom of a luxuriant Brain, 'tis the Subject of Ridicule.

Many more are the Opinions of Authors, which the Reader, if he delights in such Trifles, may take the Trouble to consult at his Leisure. But none have been so lucky as the Learned *Bellini*, whose Sentiments are confirmed by Practice: For the Pulse is not vitiated but from the Vitiation of the Blood; that the Blood offends in its Quantity, its Motion, or its Quality, in some or all of these.

The severest Mathematician never will or can deny, that there are some peculiar Affections of Matter in the Mass of Blood, which irritate more or less, and create or resist Cohæsion. The various Qualities the Secretions are stock'd with, are but the Consequence of a material Pre-existence of them in the Mass. What other are the odd *Phænomena* upon Mixtures, and their Effects, but the Result of these Qualities: How otherwise happens it, that we have known the Urine of a convulsed Person, burn the Shirt almost as readily as an acid Spirit? Many Instances are needless upon so evident a Case; nay, I shall add that these very Qualities are the

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conſtituent Principles of Frequency in the Pulſe; and that their *Valores* encreaſe or decreaſe, as they are more or leſs active.

Among one of the moſt noted Qualities in the Blood, is its Rarefactive Power: For as all Fluids are more or leſs porous, and conſequently contain leſs or more Matter in their Bulks; ſo may they be rarefied in a *Ratio* to their *Denſities*. But the Blood being compounded of Globules including an Aërial Subſtance, muſt in the firſt Place only touch in twelve Points, and conſequently have great Vacancies interſpers'd. Now if the Air's Preſſure be diminiſh'd by Heat, or ſome other Accident, the Air without theſe Globules, and that which they contain, muſt expand reciprocally to the Rarefaction of this External Air, till they arrive to an *Æquilibrum*, which often happens in our Blood to a Rupture of the Veſſels: But alſo in our Blood there are certain Principles of Heat diſcoverable; for by the Torture of the Fire we find a large Quantity of an Igneous Subſtance, which our Chymiſts are pleaſed to term *Phoſphorus*: And ſince nothing is required to be mingled with it that may afford this Matter, therefore this Inflammable and Burning *Phoſphorus* is materially pre-exiſtent in the Maſs. And hence in Fevers we become hotter, becauſe there may be a larger Quantity of this Matter in the Blood. For thus we only follow the Footſteps of the moſt Ingenious and Learned Sir *Iſaac Newton*, who, accounting for the Effects produc'd by the Sun, ſuppoſes *it a great Body of Earth heated to a certain Period, and that all theſe Effects of Heat depend on its Fire.* I cannot, by a Parity of Reaſon, ſee a readier Way to explain Heat in our Blood, than to ſuppoſe (what is but Truth) that it contains Fire in it: What other is it than this Fire that cauſes the *Thermometer* to riſe to the ſame Height, when applied to the Blood or Hand, as if it were

Boiling

Boiling Water? And if the Authority of the *Hebrews* or *Hippocrates* will add any Force to the Argument, the firſt call it קדחה & רשפ דלהת all which ſignify Heat and Fire; and *Hippocrates* calls *in Morb. Epidemic.* *Febris vehementiſſima*, Πῦῤ, or Fire *in ægroto ſecundo, nomine Sileno.*

It may be objected, that the ſerous Parts in the Blood would quite extinguiſh this *Phoſphorus*, and conſequently our Heat. If it be ſcanty, it does in effect often do ſo. Again, if we ſupply the *Decumbents* unwarily in Fevers with too abundant a Quantity of watry Liquors, we find that, in effect, it often does ſo.

But I ſee no Contradiction, to ſuppoſe that it may live in a humid, as well as the frigorifick Mixtures can even freeze Liquors into Ice upon the very Fire; or as well as Camphire Flame under Water; as does Gun-powder blended with Charcoal, Sulphur, and Salt-petre. What wonder then, if the Blood being a Fluid, being capable of Rarefaction, and having an innate Principle of Heat in it, that ſo various and ſtupendous Effects are produced by it? What Wonder if the Moments encreaſe or diminiſh in a Proportion to the Degrees of the Heat and Rarefaction?

Having ſaid enough to convince us that the Maſs of Blood is ſtock'd with Qualities of very various Natures, the Thread of my Diſcourſe leads me to aſſert, with the aforeſaid Ingenious and Learned *Bellini*, that there is nothing farther contained in the Blood, ſave its different Quantities of Matter, by which it fills the Veſſels to a certain Pitch, along with its Degrees of Velocity, which are but the Reſult of the more or leſs active Qualities contained in the Blood: And hence has the admirable *Newton* coin'd ſtanding Laws to meaſure the Moments or Aggregate of Motion in moving Bodies: From him 'tis evident that the Degree of Celerity

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is but a Quotient of the Moment divided by the Quantity of Blood, which all know. The Increaſe of the Moment will haſten the Pulſations; for if 150 *lb.* of Blood and Juices (which *Keil* ſuppoſes to be in a Body of 200 *lb.* Weight) be the Quantity of Matter in the Veſſels, and the Degree of Celerity is equal to 2, then the Moment is 300; if only equal to 1, then 'tis only 150. Now ſuppoſe the Moment 150 give 70 Pulſations in one firſt Minute, then the Moment 300 will give 140, which is called the *Coacervatus*; and I have found it in Perſons dying in a Fever; ſo that doubled Moments give doubled Pulſations. But whether 'tis poſſible for a Phyſician to diſcover by the Pulſe that the Fever proceeds from the Addition of Matter, as from Drinking, or from the vitiated Qualities (which, as I've ſaid above, are what give Riſe to the different Velocities) is not eaſily determinable. The Learned *Bellini* hints, that the *Magnitude of the Pulſe* ariſes from the Quantity, nay is reciprocal to it, when he tells us that *Momenta diſſilitionum ſunt reciprocè ut reſiſtentiæ à ſanguine*; from whence it might juſtly be inferr'd, that *Inflammatory Fevers*, from catching Cold (where the Quantity is encreas'd by the *Perſpirabile* obſtructed) or thoſe from Surfeits (where we are ſure of vaſt Encreaſe over and above the exotic Qualities ingeſted) may claim the Title of ſtrong and full Pulſes, if this Gentleman make the Advance upon Experience. I may farther add, that as the Motion of the Blood is compounded of a direct and a lateral one (as all the Fluids,) it may be own'd that the Velocity wou'd drive the Blood to the ſame Space forward; but the Quantity would not only drive it ſo far forward, but alſo farther outwards, and make the Veſſels more turgid: Which ſeems agreeable to *Borelli*'s 60th Propoſition in his *OEconom. Animal.* p. 943. If theſe were Facts, the Diſcovery would be of uſe

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to direct us in the Species of Evacuation with a ſeeming Dexterity: But 'tis much ſafer to ſtoop to Enquiries to aſſiſt us in judging, in which, Caution is a pardonable Fault; ſince I cannot practically aſſure you, whether the bare encreaſe of the Velocity of the Blood's Motion may not rarefy its Particles, and fill each Section of the Veſſels in an equal Degree, as if the Quantity had been really added.

From all that is ſaid, this Corollary may be inferr'd, that the Maſs of Blood contains ſome unuſual mixture of extraneous Qualities and Matter, which makes its Motions irregular, and keeps it out of Order, till it is ſeparated from it. 'Tis this which gives Riſe to all the Symptoms that, in Fevers, ſo grievouſly afflict our OEconomy. This Matter is contain'd in the Sediment, and is diſſoluble in the Urine; for when 'tis newly made 'tis tranſparent, and after Seceſſion may be made to reunite to it by any adventitious Heat, ſo the Degree be of a certain Standard; which is Conviction that a certain Degree of Warmth in human Bodies is requiſite to a Separation (of which Experience is the propereſt Judge, and may in part be gueſs'd at from ill Symptoms ſupervening over and above the Fever; and this is the beſt Standard of the Fever's Exceſs of Heat and Slowneſs) What hence may be deduced, is, that theſe Contents that take what Place their relative Gravity allots them, may either be ſaline or ſulphureous Bodies, or a Combination of both: Hence it is that Fevers which are accompanied with a violent Heat and ſtrong Pulſe diſſolve it too much, and the rapid Motions hinder its Seceſſion: And on the other hand, thoſe with little Heat and weak Pulſes argue this Matter too groſs and viſcid to paſs the Emunctories, and the Spirits are too few for the Quantity; and ſo it falls out, that neither way the Ferment precipitates.

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I ſhall hereafter have leiſure to ſhew, how Symptoms ariſing from the different Cauſes, give very different Views in the Cure, and that neither a Fever, nor its Symptoms, are to be handled by ſuch illiterate Perſons, who treat the Decumbent in a Road of trifling or dangerous Practice: And I hope to make it appear anon, that Symptoms are as the Fevers they proceed from; (either from too violent or too weak a Motion in the Blood) forcing the morbid Particles upon a Part, or by accumulating 'em on the Organs; for when they are Viſcid, their Trajection muſt be difficult. But when I ſpeak of too ſlow or too weak a Motion, I don't thereby underſtand that the Motion of the Blood is ſlower than in Health; for I have hinted above, that the ſloweſt Circulation in a Fever, is almoſt $\frac{1}{7}$d quicker than in a healthful Conſtitution; but 'tis meant with reſpect to the Morbid Particles, which by this Motion, as failing of the juſt Standard, can never be excluded from the Maſs.

CHAP. III.

Of the two Generical Diviſions of Fevers, *and the Differences of them; with ſome farther Proofs of their immediate Cauſes.*

MAny are the Specifick Diviſions of Fevers, which I ſhall not ſtay to Dilate on now, but ſhall proceed to ſhew, that all Fevers that afflict us, are no farther uſefully heeded, than as they are one of theſe two: And all the Cures of Fevers would be of no uſe, if we did not regard theſe Diviſions.

If we are ſeiz'd with a Fever, and if our Strengths be ſufficient, and the Heat be of a juſt Standard, the morbid Particles will be gradually attenuated, ſo as

to pass the proper Emunctories of Separation in a due Season, and the Fever will cease in a longer or shorter time: But if the Blood be in any extraordinary Commotion, or be less active and warm than this Standard, then we either burn and scorch with *Causi*, or *ardent Fevers*, or we are afflicted with *Hectical Fevers*, or such as are much below the Standard for Separation; and these Extremes are the only occasion of all the supervening Symptoms, if we add some Qualities conjoin'd, from whence these Two Kinds have their *Esse*.

If the fiery and acrimonious Particles in the Mass be plentiful, in regard to the Humid ones, the Blood will be hotter, aud the *Ardent Kind* will hence arise; but if these Particles be overstock'd with Serous and Humid ones, then the Fever is of the *Slow* and *Hectick Kind*. To give a perfect Judgment, how far they deviate from the Natural Heat, can no otherwise be demonstrably determin'd, than by the Person's having often before such a seizure try'd with a *Thermometer* the Standard of their Natural Warmth; but this not being as yet practis'd (which yet I look upon to be a Fault) we can only keep the Patients at such a Heat as that all Symptoms abate or quite vanish; only that of the Heat, and Celerity of the Pulse.

This is the most useful Division of Fevers for Practice, and ought to be the first Question enquir'd after; since it is the most General Guide in all our Indications, and leads us to know, whether we must Evacuate, and in what manner; as also what sort of Alteratives are convenient, what dangerous.

Under each of these Species are contain'd the *Intermittent*, *Remittent*, and *Continual*: which last is subdivided into the *Malignant*, *Pestilential*, and *Pestis*; or as some please to term 'em, *maligna*, *malignior*, *malignissima*, as only differing in Degrees.

Bellini

Bellini reckons, that ſome viſcid Particles ſticking in the Capillaries, produce a Fit, thus; When theſe *Particulæ frigorificæ* fix in the extremities of the Arteries, then ariſes an impediment to Motion, whence ariſes a ſenſe of Cold: But when this Obſtacle is ſhook off by the moment of the Liquids preſſing on from the Heart, Heat follows, and laſtly, Sweats, which take off the Fit or Fever. But what may produce theſe *Particulæ frigorificæ* (or *viſcido-liquidæ*, as he terms them) is not ſo evident; however, in *Act. Philoſophic. Lond.* N° 150. by a mixture of Sp. *Æris virid.* and *ſang. human.* Dr. *Slare* produc'd ſo much Cold, as caus'd the Spirit of Wine in the *Thermometer* to ſettle, in Summer, almoſt to the degree of Freezing; and this he thinks to be a pretty good Method to ſolve the *Phænomena* of the Cold Fits.

I am not ignorant, that ſome later Authors deny any Acid in the Blood, tho' tortur'd by the ſevereſt Tryals of the Fire, and conſequently will grant no Effects in the Blood from them: But firſt, *Vieuſſen*'s Experiment afforded a Dram of Acid more than the Bole cou'd have done; and every one knows, how capable an Acid Spirit is to produce ſtupendous Effects in the Maſs. *2dly.* A *Saline Taſt* is not made without a mixture of ſome Earthy or *Alcaline* Body; and a conſiderable Quantity is requir'd of this *Acid*, to make it taſt *Salt*; ſo as Spirit of Salt ʒj to Sp. of Hart's-horn ʒij. make a Muriatick Taſt, according to *Floyer*: Alſo Urine, as an Acid Salt, corrects the Bitterneſs of *Coloquintida*: And Mr. *Boyle* præcipitated with a Solution of the *fix'd Salt of Blood*, in Water, a Solution of Fine Silver in *Aqua Fortis*; which is an Argument of its being of the Nature of Sea-Salt. Mr. *Boyle* owns the ſame ſort of Salt in in the Blood: The *Bilis atra* makes Syrup of Violets Red; and Rheumatick *Serum* of the Blood, makes the Syrup Green; therefore the Blood is ſtock'd

with Salts of different Kinds. 3*dly*. Many of the ſecreted Humours taſt very acid, and produce all the Changes that Acids do, when they are blended with ſuch Things as convince us of an Acid in a Mixture. From theſe few Arguments, I hope we will not deny our Senſes, the only *Criteria* we have to judge, of Medical Affairs, by. Hence then, it may ſafely be concluded, that Acids are materially exiſtent in the Maſs: As to our being ſupply'd with 'em, we can be at no loſs to know; nor, by conſequence, how our Blood can be Coagulated by 'em, ſo as to cauſe this Senſe of Cold in *Horrors*.

Another Difficulty yet remains; which is, Why we ſhould grow Cold only at ſuch certain Intervals and Diſtances, ſo regular, as if we were a piece of *Machinerie? Willis* looks upon a certain Quantity of the deprav'd Juices to be neceſſary to produce the Paroxyſms; and this he proves from the poſſibility of haſtning or retarding the Fits, by Over-feeding, or Faſting. I ſhall not ſtay to reckon up the various Opinions on this Head, but ſhall frankly deliver my own Thoughts.

Experience convinces us, that Fevers are not of equal Duration; And conſequently the Matter which paſſes off Critically in the different Individuals, cannot be capable of equal Attenuation in equal Times, ſome requiring Four Days, others Ten, and others Twenty Days, or more, before the Matter be fully ripen'd, or the Fever come to its Critical Period: This holds true in Continual Fevers: And ſince Agues are but repeated Fevers, we may conclude the Blood's mixture ſo very *Heterogeneous* as to contain ſeveral Quantities of this Matter, each of which has very different degrees of Cohæſion, altho' the ſame Species of Matter; one Parcel of which is already fit for Excluſion; another, not till to Morrow at the ſame time, or longer. Hence the exactneſs of Turns, and ~~the~~ the due diſtance of Fits; hence alſo *Tertians*

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are often chang'd into Quotidians, and *vice verſâ*. Hence it is we often have ſeen ſix or ſeven Fits, and no more; hence alſo its longer Duration from a greater Quantity of theſe unequal Cohæſions, that require exactly ſo many Circulations before their Maturation; ſo that if we ſuppoſe a Perſon ſeiz'd with a Tertian, and that the Quantities of Matter be expreſs'd in the following Letters, *viz. a, b, c, d, e, f, g.* let us ſuppoſe the particle *a* to begin on *Monday*, then the particle *g* will produce a Fit on the *Saturday* Se'nnight after: If they are cur'd at *g*, then *g* has requir'd 15 Days Maturation, and therefore muſt *a* too; hence it is we are often for ſome Days diſordered before Fevers and Agues.

Having anſwer'd this Queſtion, I ſhall proceed to ſhew you how Fevers differ among themſelves in Degrees only.

An Intermitting Fever, (whether a Quotidian, Tertian, Quartan, or any other) begins with a Coldneſs ſeizing on the Region of the Loins, along with Horrors; the Nails grow blew, the Head aches with gravative or tenſive Pains, the Pulſe is ſlow and oppreſs'd, and the Urine is clear without Sediment: In the middle of it, comes on a troubleſome Heat; various and irreſiſtable Fancies infeſt us, the Pulſe grows quick and ſtrong, the Urine is reddiſh; Thirſt and many other Symptoms ariſe. When the Fit declines, the Pulſe becomes undoſe and ſtronger, the Urine ſettles, they ſweat plentifully, all the Symptoms abate, and at laſt an Ἀπυρεξία ſucceeds; and then too, the Appetite returns, and we are now no farther in a Fever, till the Return of the Paroxyſm.

A Remitting Fever alſo begins with an *Algor* and Horror, after which they grow hot, with a quick and frequent Pulſe, various Symptoms come on; at the decline of the Fit the Symptoms abate, the Heat leſſens, but never quite leaves us till the laſt Fit;

the Urine ſettles, the Pulſe grows milder, and they ſweat: And thus ſeveral partial Attempts are made, till the Grand Decline.

A Malignant Fever begins too with a Rigor, if of the Hectick kind; but a Horror, if of the Ardent kind; after which, from the beginning of the Fever to the total decline of it, (for I here abſtract from conſidering it, as turning Remittent or Intermittent before it ends;) 'tis equable, and without any Paroxyſms; the Urine is clear or ſtrawy, the Tongue dry, brown, or black, with the *Aphthæ*; and the Spirits fail.

'Tis then plain, that all Fevers begin firſt with *Algors*, *Rigors*, or *Horrors*; after which, come on afflicting Heats along with a train of Symptoms: And at the decline, Sweats or ſome Evacuation of equal Force to them, which abate the Fever or quite take it off. The Difference then is only that in Agues the *Horror*, *Heat*, and *Sweat*, terminate in few Hours in a perfect Calm, 'till the next Return. In *Remittents* the *Horrors* are only at the beginning; the *Heat* is conſtant, but not equable; the Fits terminate in *Sweats*, ſo partial as only to abate, not extinguiſh the Fever till the next Return; and thus it continues decreaſing till the Grand critical Evacuation. In the *Malignant*, the *Algor* is not very remarkable: The *Heat* continues equable many Days; and what Sweats ſupervene at firſt, are ſometimes the Effect of the ill Regimen; but thoſe *Sweats* that come upon a digeſted Urine, after the State, are deciding, and terminate the Fever. The *Algors* are the Arguments of ſick'ning Nature; the *Heats* and Symptomatical Sweats, of her Struggle; and the *critical Sweats*, of her Victory.

From what has been ſaid above, and from what appears, it may be concluded, if the Quantity of Matter or its Qualities (from whence ariſe the different

rent Degree's of Velocities) were always the ſame, we never ſhould be affected but with one ſort of Fever; but as they vary infinitely, ſo do their Effects, ſo do Fevers.

In the beginning then of all theſe Fevers, the Principles that conſtitute them ſeem to be as yet in the Oar; and the Blood is ſo obtunded by this Maſs (and the Pulſe obſerves the Motion of the Blood) that the irritative Particles are not extricated but by reiterated Circulations; and then the Maſs begins to be more open in its Texture; then the Heart begins to be vellicated, and the Pulſe in Proportion grows quicker and ſtronger; the Skin grows hotter, (but much more ſo in the ardent than in the hectick kind;) and at laſt (all at once, or by degrees,) whatever is noxious begins to be thrown off, and to be expell'd through ſome Emiſſaries, and then the Fever, of what Denomination ſoever, abates or ceaſes. The Matter and Qualities of Blood which make an Ague, muſt be different to theſe that conſtitute a Remittent Fever; and both muſt infinitely vary from what gives riſe to Continual ones: But as it has been proved that nothing but Quantity, Motion, and Quality can give riſe to any of theſe; 'tis conſequential that their productive Principles only differ in Degrees.

Fevers then are properly divided into Ardent and Hectical, and they into Intermittents, Remittents, and Continual; (which are either Malignant, Peſtilential, or a *Peſtis*.) There are alſo Subdiviſions of Fevers, as Hecticks ſeem referrible to the Remittent kind: And ſome may properly enough be term'd the *Neutral*, for they may belong to any of the Species, and they frequently do, (ſuch are the Meaſles, Small-pox, Raſh, Scarlet, *&c.*) for ſometimes they become Epidemical and Peſtilential, as they have been for theſe five Years; and other Years, are left to the Care of the *Nutriculæ*.

These Fevers are known frequently to change Hands with each other: So that what to Day is Continual, to Morrow may turn Remittent; nay, Intermittent, as the Quantity of offending Matter is extruded: And, on the other hand, we frequently find that Diaries, by the wretched Mismanagement of Pretenders, are too often heightned into some of the former; which still plainly proves that all these Fevers differ *secundum majus & minus.*

Of an Ephemera; *its Causes and Signs.*

I shall not dwell upon this Head, but shew you the Procatarctick Causes of them, in which the other Fevers share in common.

Cold is the most common evident Cause of all Fevers; and the Pores being obstructed by it, the Blood-Vessels become much distended by the Addition of the *Perspirabile*, which occasions a larger Pulse, in Proportion to the Quantity added; for *Cylinders* of equal Altitudes being to each other as their Bases, a larger Diameter argues a larger Base, and a larger Quantity, and therefore a larger Pulse.

Woody Places have been found to occasion Sicknesses, and particularly Fevers, from the same obstructive Power: And the ingenious Dr. *Woodward* has, in the *Act. Londin Philos.* given us a most accurate and laborious Account of the Reasons of the Unhealthfulness of Woody Places, as in *America*, (particularly when our Plantation first settled.) Having found by Experiments that a Plant wou'd augment but as 1 to 46 (or 700) of Water; and that the Growth was to the Evaporation but as 1 to 46 (or 700.) How Dampy must a Place stock'd with Trees be then, and how dangerous for Health? Under this Head comes moist Weather, which also lessens the Air's Weight so much that the Blood must

muſt rarefy in Proportion, as has been ſaid above: Hence in *England* we are ſo Healthleſs.

The *Heat of the Sun* ſometimes rarefies our Blood into an *Ephemera*; but our Northern Climes knowing few labour from this Head, 'tis enough to have hinted at it, and proceed to one more, nay, moſt common Cauſe of them, I mean Exceſs of Drinking; which both adds Matter enough, and Qualities ſufficient to fire it into Commotions.

Moſt other Cauſes depend on ſome of theſe, and therefore I ſhall proceed.

The Signs of an *Ephemera* are the numerical Symptoms that point out other Fevers; and I know no Difference ſave the Duration, which I have ſufficiently prov'd to depend on the greater Exceſs of Quantity or Qualities: For they begin with Rigors, and Heat; and all other Symptoms, common to other Fevers, follow; and it terminates with Sweats: Sometimes it laſts only one Day, often two, ſometimes four Days. But the moſt diſtinguiſhing Sign I know, is, *That the Urine ſettles at the very Beginning of it*; which alſo is common to Eruptive Fevers: But they are alſo diſtinguiſhable by other collective Signs, and may be better gueſs'd at by them. *Sennertus* only ſays, *This Fever did not proceed from a Procatarctick Cauſe, therefore 'tis no Ephemera:* But he tells us he cannot argue *vice verſâ.* And *Walſchmidt* ſays, *We may gueſs it to be an* Ephemera, *or Diary, if the Perſon were well conſtituted before the Seizure.* No Time nor Place is exempt from the Attack; for we have known them ſeiz'd in Bed, as well as out of Doors.

As to the Danger of a Diary, there is none; for it preſently terminates in a *Mador:* But Miſtakes or Miſmanagements cannot be anſwered for; and 'tis eaſy for it to be advanced, as I have ſhewed above, into, even, a Continual. *Vid. Coberi Decad. Obſ.* 1.

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The Cure of it is ſo eaſy, that Phyſicians are ſeldom conſulted about them. However, if any are afraid, by the Violence of the Heat, and Strength of the Pulſe, along with Headachs, that it may degenerate into Συνοχὴν; or, if the Perſon ſeized be of an Athletick or Plethorick Habit of Body; Bleeding is adviſable to abate the too vigorous Motion, or prevent Ruptures of the Veſſels, along with a diluting Diet of cooling Things: Such are Oatmeal-Gruel, Panadoe, thin Broth, Sack-Whey, Poſſet-Drink, Small-Bear and Toaſt with Nutmeg, Wine and Water with a Toaſt. *(Claretum Coberi*, viz. *Aq. font. Cinnam. Sacch. coct. & per Manicam Hippocratis tranſcolat.)* Abſtinence from Fleſh-Meat till the Sweat carry it off.

If they be not burning, but are rather hectical; warmer Diet may be allowed to bring the Fever to a Balance, till they ſweat; ſuch may be allow'd Caudles of Wine, Broths, (but no Fleſh-Meat,) and even, in Peſtilential Caſes, Wine. *River.*

If they are infeſted with *Sickneſs*, either a gentle *Emetick* or a *Cathartick* does well, eſpecially if 'tis from Drinking or playing the Gourmand; or at leaſt a *Gliſter* may be adminiſter'd to evacuate Share of the offending Matter.

Bliſters are of uſe, if they are catarrhous and hectical; and that they may turn ſuch, whoever ſee any Examples of our Feverett, *&c.* in 1712. can be at no Loſs to imagine or know.

In general; what is given in this ſhort Fever ought to be lukewarm, (if nothing contraindicate;) becauſe the *Criſis* being at hand, Perſpiration is to be promoted, and no Pore ought to be ſhut up from being a Salley-Port to the *Perſpirabile* retain'd. Whereas, if the Liquors are given cold, the Pores of the Glands of the Stomach might be obſtructed, and endanger an Inflammation of that, or ſome other Part; as is common.

mon to Perſons over-heated, and immediately drinking Water upon it.

Give me leave to remind you, that *Baglivi* is of Opinion, that in the Cure of Diſeaſes, great Regard ought to be had to the Procatarctick Cauſes: *Si Febrim*, ſays he, *ex Inſolatione vel hujuſmodi externâ Cauſâ productam curandam quis ſuſciperet, nulloq; habito reſpectu ad Cauſas procatarcticas; per præconceptam Recentium Medicorum Hypotheſin non tantum Febres verum etiam morbos omnes ab Acido pendere, alcalia volatilia uberiori doſi præſcriberet, ut præſuppoſitum febrile Acidum infringeret; & per Diaphoreſin eliminaret, nonne profecto toto erraret Cœlo? Cum Ebullientis ab acceptâ Inſolatione —— ſanguinis Motus Componendi potius ſint per amica Remedia, quam addendum Calcar per furentia alcalia? Apparente Igitur pro diverſitate Cauſarum procatarcticarum & antecedentium diverſâ facie Cauſa immediata & proxima, in hauriendis Indicationibus morborum ad illas ſemper reſpiciendum erit. Aliter enim tractare debemus febrim ab Intempeſtivo frigore aliter à Crapulâ, Venere, Inſolatione, animi Pathematis aliiſq; Cauſis productam.* And below, *Nonne Inſaniret Medicus qui ardentem febrim à nimia Venere productam eâdem Methodo purgantium, Venæ Sectionis, &c. Aggrederetur, quâ Ardentes aliis Cauſis, Ortum debentes, aggredi ſolet.*

I am ſorry to diſſent from ſo learned and laborious a Perſon as *Baglivi*; but *Amicus Socrates, amicus Plato, at magis amica Veritas.* Indications are to be taken from *Permanent Effects:* So that if Cold has alter'd the Pores; if Liquor has relaxed the Fibres of the Stomach, or over-crouds it; if the Sun by its Heat has curl'd the Fibres too much, or have ſtraiten'd the Pores; if Venery has exhauſted the Spirits; the Faults muſt be amended, becauſe they are *Permanent Effects.* But it often happens that the External Cauſes produce ſuch Effects in the Maſs,

Maſs, as require the Uſe of that very Thing that gave Riſe to it: As is frequent in Dropſical Perſons, who are enjoin'd the Uſe of Wine, when perhaps 'twas caus'd by that very Liquor: Cold Liquors drank by a Perſon over-heated, will often produce an Inflammation in the Stomach, which all know requires cooling Medicines: Rheumatick Pains often ariſe from Rain wetting us through our Cloaths, which, after proper Evacuations we have known cured by Immerſion [the Θερμασία.] Ardent Fevers frequently depend on this Cauſe; and yet we muſt cool them. Many more Inſtances may be brought to convince us, that the Procatarctick Cauſe ought not to miſlead *Practitioners* ſo far as to neglect any Remedy contraindicated by the preſent Circumſtances. *However, 'tis, generally ſpeaking, helpful to judge of the Effects produc'd: But our Indications ought to be farther fetch'd, and from a ſurer Bottom than it*, I mean from the *Vitiations of the Blood and Fibres*, which are beſt judg'd of by proper Symptoms. Vid. *The Introduction.*

Of a Febris Putrida, *Remittent*, Συνεχὴς; *Hectick, and Intermittents.*

A *Synechès* is a Fever with Remiſſions, *i. e.* a Fever where there is conſtantly a Febrile Heat, (after the firſt Horror is over,) conſtantly a Quickneſs, and Frequency of Pulſe; but when the Paroxyſm or Exacerbation comes on, then theſe Heats encreaſe wonderfully more than in the Remiſſion, and then the Pulſe grows ſtronger and more frequent, and the Quickneſs is more perceptible. At this Time too, all Symptoms, whether Pains, Fluxes, Vomitings, or ſuch-like, recommence and revive. So that when the Fever continues, and yet the Blood ſuffers *Tides*, and ſhifts from Ill to Worſe, That we call a *Remittent Fever*, or a *Synechès Putrida.*

As

As I have hinted above, it may either be of the Ardent Kind, or of the Hectical: For if in the Fit the Heat be very violent, and the Pulse be very large and strong, Bleeding is absolutely necessary, and ought to be proportion'd to the Strength and Age of the Patient, nay, and must be reiterated, if Occasion require it. And I say of the Remittent Kind, as Dr. *Cole* says of the Intermittent, that Blood ought to be taken away in the Paroxysm; for then we can best judge of the utmost Heat, and may better proportion the Evacuation thereby.

After which you may give all the Diluent and Acid Remedies to cool the Blood, and so impede its too rapid Motion, that it may not endanger *Inflammations* or *Hæmorrhages*: And thus you prepare a readier Way for a regular dropping a Sediment, and to a Decisive Sweat: Or if a *Remission* happens, which is not so easy to obtain at first, in the *Ardent* Kind, when it happens distinguishably, then give the *Cortex peruv.* at due Distances and Doses, and continue it to a perfect Cessation of the Fever. In such Fevers the Patients may sit up often in a Day, or in Bed.

I know several Practitioners, who upon the Complaints of *Faintness*, heap upon their Patients Cordials of a warmer Kind. 'Tis true, as will appear more at large hereafter, that *Deliquia* may require for the present warmer Cordials: But a *Faintness* being only a Disposition to a *Deliquium*, ought to be handled in these kind of Fevers by lessening the Cause of them; and by these Medicines you are so far from helping this, that it will be found destructive, by causing an over-bearing Motion; and by over-distending the Vessels, you would Cause very dismal Symptoms.

You must then give them, in their ordinary Drink, some Drops of *Sp. Sulph. Vitr. Nitri Dulc.* also *Syr. Limon.* or any other Acid, to such a Quantity as may

may gratefully acidulate the Small-Beer, Barley-Water, Wine and Water, or any other ſmall Liquor, by which you calm this violent Commotion; and at laſt the Urine, by this Management (for I am now only talking of the Cure, without conſidering the noble Effects of the Cortex, and which I believe no Practitioner ought to neglect) will ſeparate; and then, and not till then, if Occaſion require it, venture a little thin Broth, ſo far as to ſupport, but not heat, till a regular *Criſis*. Though I have often known lucky Miſtakes at the State, by drinking ſtrong Liquors; yet this cannot be drawn into a precedent by prudent Men, ſince there was no equal Chance for ſo good an Event.

If the Pulſe be weak, and the Heat be moderate, both in the Paroxyſm, and out of it, all we can do is to give the Teſtaceous Medicines, to advance the Febrile Heat to ſuch a degree, as Experience makes it evident a *Criſis* will follow; to adminiſter gentle Cordials and Alexipharmacks to ſupport the Spirits; and alſo Bliſters, to rouze the drooping Circulation.

If I ſhould here undertake dogmatically to aſſert the Manner of Operation of the Teſtaceous Medicines, I ſhould hazard to anſwer a difficult Queſtion. 'Tis doubted, however, and not without ſome Reaſon, that they ſeldom paſs farther than the Stomach and Inteſtines: And if we conſider, that though theſe Powders be reduc'd to be impalpable, and till they can be reduc'd into no larger Surfaces phyſically; yet if we then mingle them with Cordial Waters, nay, with Syrups or Oils, (which buoy them better up,) they will in a very little Time ſubſide. Which makes it probable, theſe Sort of Medicines ſeldom mount up the Thoracick-Duct. And accordingly I have found them lodg'd in the *Receptaculum Chyli* in a Perſon under an *Empyema*, who, by the Preſcription of a great Man, had taken plentifully of them; and they had harden'd into ſo ſtony a Mat-

a Matter, that I was ſome Time e're I was ſatisfied what they were; for what the Knife would hardly enter; in ſome Time, diſſolv'd in the Water.

If there were no Difference between the relative and abſolute Gravity, it would be eaſily granted that Pearl would ſettle preſently; becauſe the Mathematicians ſhew us that a Body gravitates with its Exceſs of Gravity above the lighter: So that ſuppoſe with them $x+y$ to be the heavier, and x to denote the lighter; then $\frac{x+y}{x} = y$: So Mercury is ſpecifically heavier than Water, as 14 to 1, therefore it gravitates by an Exceſs of 13; ſo Pearl is to Water as 2, and 51 to 1, therefore it gravitates with an Exceſs of Gravity of 1 and 51 above Water. Enough of this may be ſeen in Dr. *Wallis*, *Pere Thomas*, and *J. Rohault. p.* 194. *Part* 1. *c.* 16. *De Corps durs plongez dans des Liqueurs:* But if we to this add, *That the Reſiſtance to Deſcent encreaſes upon dividing a Body into larger Surfaces*; ſo that Gold-duſt itſelf will ſwim for ſome time; we may, upon this Head, grant that theſe Pouders are long a ſettling to the Bottom; yet I muſt frankly own, I hardly believe they ever reach the Blood; for that we ſee they are never pulveris'd ſo fine as to make the Reſiſtance equal to their abſolute Gravity: Hence, before they paſs from the Stomach, they ſubſide, and are carried through the Common-ſhore of the Inteſtines.

It may then with Reaſon be asked, How Steel, Mercury, and ſuch heavy Bodies produce their Effects in the Blood? We are certain that wonderful Effects are produced by theſe Medicines given Inwardly. 'Tis not ſufficient to ſay that the Gravity of the Fluids increaſe upon the giving theſe Medicines; becauſe I know no Trial as yet made on theſe things: Indeed, where they may be diſſolved in the Stomach or Liquids taken, I find no Difficulty

culty to yield they do: Nor do I here talk of particular *Menſtruums* that can make 'em liquid; but the bare Tincture drawn by the Juices of the Stomach from theſe Medicines, may ſufficiently produce theſe ſtupendous Effects. So that, without pronouncing, we may probably ſay, that perhaps theſe Medicines rob the Contents of the Stomach of their offending Acidities, as we ſee they do in Vinegar; and theſe Contents conſtantly taking Journey into the Maſs, may thus prevent future, and diſſolve the preſent Combinations which prove a Bar to ſuch a Motion as will be ſufficient to throw off what is noxious, and ſo are preparatory and remove the Obſtacles that hazard a good Separation, and thus eventually contribute to a *Criſis*; for the Juices of the Stomach being impregnated with them; thus chang'd, they may invigorate the Fibres and Blood; and ſupply Matter for Sweats; or perhaps the active Principles may be too far divided by too great a Quantity of Serum, and they may abſorb ſo much as to make 'em attract each other more forcibly; and thus the Blood will move on in a juſt Tenour of Motion, and exclude the noxious Particles thro' the Pores. But 'tis trifling to enquire ſo nicely into the Particulars, which may remain a Secret never revealable, and therefore I ſhall proceed.

The Remedies are the following: *Margarit. Pulv. oc. 69. Bezoar oriental. occidental. mineral. Lap. de Goa, Contrayervâ, Antim. Diaphoretic. Pulv. E. chel. C. Corn. Cerv. Calcinat. Corall. Rub. Cinnabar. Nativ. artificial. Antimon. Diaph.* and ſuch-like, which are to be varied according to the Patient's Palate.

℞ *Pulv. marg. ppt.* ℈j. *oc.* 69. ℈ß. *Bez. orient. gr.* vi. *Conf. Alcherm. ſine moſch.* ʒj. *Syr. Caryoph. gr. m. f. Bol. quem repetat intra horas* 5, *vel* 6. *ſuperbibendo Cochl.* iv. *Julap. cujuſvis* Perlati.

℞ *Pulv.*

℞ *Pulv. e Chel. C.* ℈j. *Sal. vol. C.C. gr.* j. *Conf. Alcherm. ſin. adorat. vel Theriac. androm. (modo nullo Symptomate Comatoſo contraindicetur)* ʒß. *Syr. Aurant. qs. m. f. Bolus Capiendus ut ſupra.*

The Practitioners in *Holland* make much uſe of *Antimon. Diaphoretic.* in their Bolus's; for they living in low and wet Grounds, may make freer with fiery Abſorbents than we dare.

℞ *Aq. Lact. alex.* ʒiij. *Meliſſ.* ʒvj. *menth.* ʒß. *Epidem.* ʒß. *Ceraſ. n.* ʒj. *marg. ppt.* ʒj. *Sacch. Cryſtal. qs. m. f. Julap.*

℞ *Aq. frigid. Saxon.* ʒiij. *Borrag.* ʒiv. *Cinnam. h.* ʒj. *Conf. Alcherm.* ʒj. *marg. ppt.* ℈ij. *m. f. Julap.*

℞ *Aq. Fragor. ulmar.* ā ʒiij. *Theriac. ſ.* ʒj. *Scord. Comp.* ʒß. *Syr. aurant.* ʒß. *m. f. Julap.*

After we have given theſe, or ſuch-like, for ſome time, and by 'em have rais'd the Pulſe, recruited the Spirits, invigorated the Motion, and advanc'd the Heat to a ſufficient degree, 'tis then our Buſineſs not to tamper farther, but to keep it up to this pitch, without letting it fall or riſe, till the State: when the happy Minute comes to diſmiſs the Fever through ſome of the uſual Outlets, and reinſtates us.

After the Adminiſtration of theſe Medicines, 'tis pleaſant to obſerve the Varieties of the Pulſe and Urines; as the one advances to a juſt pitch, the other changes at the State, from Turbid, Milky, Thick and Muddy, to a good and laudable Sediment; and the Symptoms, in Proportion to this, vary, and either diminiſh or ceaſe.

Some Fevers are of a mix'd kind; for at first they have weak Pulses, and moderate Heat; and yet a little after they turn Ardent, with Phrenzies: We may guess at these Fevers from these Collective Signs, *viz.* Surfeits, Youth, *oppress'd Pulse* (*viz.* sometimes Great, sometimes Small; now Weak, then Strong; now Quick, then Slow;) a particular warmth beyond the Standard; violent Head-achs, Red Eyes, Sanguine Complexion, Red Urine, a Plethora, a strong Locomotive Faculty, and nothing has preceded, that could Weaken; and *thus we may venture to make use of Evacuations by Bleeding, and what is indicated besides, as above.* I much fear, the neglect of understanding this, has given occasion to many fatal Mistakes.

This may farther be added, That Putrid Fevers are not Mortal, till they turn Continual, which any Mismanagement will easily do; and therefore prudent Care ought to be taken at the Beginning, that proper Evacuations then be made, the neglect of which they too too often suffer for, in the Progress.

As to the Administration of the *Cortex Peruvianus* in these Fevers, no Body ought to be startled at *Baglivi*'s ill Character of it; for it as certainly Cures *Remissions*, as *Chalybeats* a *Cachexy*; but I hope no one expects an Infallible Remedy: And as it is not useful in the Ardent kind, at the beginning, more than 'tis in a Malignant; so perhaps he may say truth, in crying it down in *Italy*, if their Fevers are always Ardent: But if Experience be a sufficient Argument to reject it, the same will be proof enough to retain it. In short, if the *Cortex* be well chose, be given regularly, and to a due Quantity, there is not a nobler Remedy in the World for all Remittents hitherto: Indeed, if we fail in any of these Heads, I don't much wonder the Success be proportionable. I have in this far'd as many of the Faculty have; and upon Change, have succeeded accordingly;

ingly; but in none more conspicuously than in the Eldest, and then only Son of the Lord *W——n*; who being seiz'd with a *Synechus*, with very fair *Remissions*, in which he was *Comatous* in the Fit, with an augment of his Heat, and quicker and stronger Pulse: After some Evacuations before my Arrival, I gave him about ʒvj. of it, (which, to a Child of Eight Years, was a large Quantity) to no purpose; but finding his Remissions darker, I suspected the *Cortex*, and therefore sent to the Apothecary for a Quantity to chuse on, which he and myself chose; Pouder'd it, and 'twas given to ℈j. at a time; the Fits immediately return'd slower, and with ʒij, or little more, went off quite, to the pleasing Admiration of the Family, and conviction of the Cause; which I here the rather take the liberty to mention, because a Gentleman of the Faculty of our own Nation, seems, in a Tract, not to matter whether it be Putrid, Annose, or not, which is evidently a great and dangerous Mistake. I shall only take the Liberty to annex one History more, tho' 'tis now self-evident, by every Practitioner's Observation, how useful it is. I was call'd to a Gentlewoman who had a Vertigo, a quick Pulse, and Heat upon her; she was Vomited by her Surgeon with *Vin. Benedict.* and *Sal. Vitriol* (after 8 Ounces of Blood drawn off:) The following Day (*June* 4. 1701.) I was call'd in, and found her a Vomiting every thing she took; her Pulse was weak, tho' quick; her Heat was moderate, and Urine Red: I order'd her Stomach to be wash'd farther with Chicken-Broth, and then to take a Pearl Julep to to relieve her Spirits; and at Night, order'd her *Riverius*'s Mixture of *Succ. Limon, Sal. Absinth.* After which, she Vomited no more, but Slept quietly. The 5th in the Morning, she was much Refresh'd, and her Pulse was not quite so weak. In the Afternoon her Vomiting return'd, and her Spi-

rits were much depreſs'd (as was evident from her weak Pulſe and Swoonings.) I order'd the repetition of the Antemetick Julep; and Pearl Julep for her Spirits, with a little Treacle-water, *Aqua Lact.* and now and then, if Faintneſs urg'd, to take 10 *Guttſ.* of *Sal. Vol. Oleoſ.* in the Julep. The 6th, the Vomiting ceas'd, and then a Headach came on violently, with her Pulſe wonderfully ſtronger; inſomuch as I judg'd it neceſſary to take away ſome Blood (℥vj.) and obtain'd a Remiſſion; upon which I gave her ℥iv of the Decoction of the *Cortex*, and continu'd its uſe every 4 Hours in the Remiſſions; (and if Fainty, to take ſome *Sal. vol. oleoſ.* in the Julep, for her Pulſe then fail'd.) All that Night ſhe ſlept very well, was free from her Headach, but not without a Heavineſs. The 7th, ſhe begun to regain her Appetite, her Urine began to drop a Sediment, her Temper grew Natural, but yet her Pulſe was Feveriſh, and therefore I continu'd repeating the *Decoct. Febrifug.* in the Remiſſions. The 8th, her Temper, Pulſe, Urine and Appetite, began to return. The 9th and 10th, ſhe grew very well (tho' ſhe Vomited the Decoction) but upon Repetition, ſhe grew Well. I repeated it within 10 Days, as is uſual, and ſhe now, which is 15 Years ſince, continues Healthful.

More Hiſtories, in vindication of the *Cortex*, wou'd prove too tedious to any common Practitioner, ſince daily and undeniable Experience convince us of the Truth here adduc'd; but muſt take notice firſt, that, if they are not called in too late, they ought to Bleed, Vomit, or Purge with *Lenients*, before its Adminiſtration. As to giving it by Glyſters (according to *Helvetius*'s Method) 'tis very uſeful in Children (eſpecially) who nauſeate its Taſt, and ought to be given to ℥ß. or more at a time out of the Fit; and after one is rendred, it muſt be repeated till the Fever goes off.

I ſhall

I ſhall moreover add, that I have found the Repetition Uſeleſs, if while you are giving the *Cortex*, you give a much larger Quantity than what will do. I ſhall therefore proceed to the *Hectick*.

COROLLARY.

From the Affinity there is betwixt a *Remitting* Fever and a *Hectick*, I take the liberty to ſubjoin it.

The *Hectick* has its Exacerbations as a *Remittent* has; they never want a Heat, but it abates at certain Times, as in the *Syneχὴs*; but then as the Blood is overſtock'd with an Acrimony of a particular Stamp, the Sweats that come on, do (as in the *Syneχὴs*) abate the Heat; but ſtill the Fund being almoſt inexhauſtible, they never can throughly exterminate the Matter, but the Fits are renew'd afreſh, and the Sick are drain'd, and die in a *Maraſmus*. This is call'd *Hectica Simplex*: But the Cauſe is frequently in the Parts, and then 'tis a *Symptomatical Fever*, and this is common in Conſumptions. I have ſeen it after the *Small-pox*, from Scales lining the whole *Inteſtinal Canal* (of which *in Sect. de Cholerâ*) and this is call'd *Hectica putrida*: Indeed Hectical Perſons have no Horrors, as in the *Syneχὴs*, but often complain of a Chillineſs: However, 'tis with Reaſon annex'd to a *Syneχὴs*, becauſe of its Exacerbations and Remiſſions: But in *Hecticks*, theſe Exacerbations and Remiſſions are generally after Meals, when they have a ſharp Heat on 'em, a frequent and quick Pulſe; and Sweats, *Diarrhœa's*, or Urine, hurry 'em into into an *Atrophy*. *Floyer* obſerves the Pulſe 100 out of the Fit, and 120 in one.

As to the Cure, the Pulſe, Heat, and Acrimony, and ſhifting in the *Hectica Simplex* muſt direct us: And in the *Putrida* the nature of the Inflammation; and the Obtunders are neceſſary in both.

In the *Simplex* then, after Bleeding, (if their Heat be great, Pulſe ſtrong, the *Hectick* juſt beginning, and their Strength allow of it) we muſt make uſe of ſuch Remedies as obtund and correct the Acid Acrimony, ſuch are all Slimy, Watry, and *Teſtaceous* Medicines, a *Milk-Diet*, *Steel-waters* of the lighter kind; the *Decoctions of Ivory*, *Harts-horn*, *China* and *Sarſa*: Willis *de Phthiſi* uſes this; ℞, *Lign. Sanct. in Conſtitution. Phlegmaticâ aut frigidiore)Rad. Sarſap.* ℥iv. *Chin.* ℥ij. *ſantal. alb. rub.* ā ℥ß *Raſ. Ebor. C.C.* ā ʒiij. *ſ.* ā *Infundantur & coq. in Aq. font. lbviij. ad iv. addendo liquirit* ℥vj. *puſſular. Exacinat.* ℥jß. *pro potu ordinario Conſtanti & aliquandiu ſumantur. Cheſneau* in his *Capite de Phthiſi, Obſ.* 1. has the following *Decoction.* ℞ *Chin. in Taleolas inciſæ* ℥ij. *Fol. pulmonariæ m.*j. *Infund. Chin. per Noctem ſupra Cineres calidos in Aq. font.* ℔vj. *mane injice pulmonar. fiatque Decoctio lentâ Ebullitione ad tert. partis Conſumptionem. Colaturæ add. ſacch.* ℥ij. *& Cinnam.* ℥ij. *pro potu ordinario.* A Great Man fram'd a Decoction like theſe, and palm'd it as his Secret and Invention upon his Patients. The Diet ought to be ſuch as conſiſts of the like Particles; ſuch are *Puddings*, *Gruels*, *Milk-meats*, *Rice*, *Avenacea*, ſome Freſh Fiſh, (Aſelli) *Crabs*, &c.

After the Blood is well Corrected, give the Powder of the *Cortex* to a Dram thrice a Day to abate the Fever-fits: Theſe Medicines continu'd for ſome time, and with the uſual Cautions will have their deſir'd Effects, as I have frequently experienc'd.

Immerſion in cold Water, which is lately reviv'd, is alſo very good in this Caſe, if the neceſſary Cautions be obſerv'd,(*viz.*not to venture on it,if any Viſcus labour under an Incurable Diſorder, or be faulty; not immediately after a Debauch, in Defluxions, nor weak Perſons) you muſt ſtay in, a good while, the deſign being to allay the Heat.

But

But as to the *Putrid Hectick*, repeated *Bleeding* is neceſſary in beginning Conſumptions, for then all know it depends on *Tubercles*, or the *Glands* of the Lungs Inflam'd; and then too 'tis neceſſary to give all the Obtunding Medicines, as in the *Hectica Simplex*; and other Indications ariſe from the Nature of the Caſe, ſuch as *Opiates* at Night, to allay the violent Irritation of the Cough; *Iſſues*, to revulſe the Humours; *Bliſters* for the ſame End. But this Diſcourſe belongs no farther to this Head, and therefore ſhall paſs on to the *Intermittents*.

Intermittents are cur'd in the ſame manner as *Remittents* are, in regard of their ſhifting: But 'tis obſervable, that without due Evacuations, the Fever is apt to return; and if the Blood be remarkably out of Order (as it often is in ſome *Tertians*, but more eſpecially in *Quartans*) if the Blood is not corrected too, the Ague Returns and ſometimes cannot be taken off at all by the *Cortex*, till the State of Blood is Corrected. After proper Evacuations (and Corrections, if requir'd) then give the *Cortex*, from 5 *gr.* to ʒj. at a time, every 4th Hour, during the interval of the Fit, till it returns no more: Thus all Agues (whether *Quotidians*, *Tertians*, *Quartans*, or others, compounded or ſuppos'd to be, of theſe) are carried off, unleſs ſome *Idio-Syncraſy* hinder; for then you muſt, inſtead of the *Cortex* ſubſtitute ſome other *Antefebrile* Medicine, ſuch are, *Miſtura Dekkeri Antifebrilis* (*viz.* ℞ *Cort. Lign. Guiac. Fraxin.* ā ʒj. *Extract. Rad. Angel. Gentian. Antimon. Diaphor. Sal. vol. Sal. armon.* ā ℈j. *Myrrh.* ℈ij. *m. f. pulv. divid. in Chart.* N° viij. or *Pulv. febrifugus Fulleri* (*viz.* ℞ *Sal. abſinth.* ʒß. *Antim. Diaph.* ʒj. *Flor. Camom.* ʒijß. *f. pulv. pro* 8 *Doſibus*. Many have cur'd Agues with *Allum* ℈j. *and Nutmeg mix'd*, and given every 4th Hour, (the Nutmeg in *Rat. Aluminis Subduplâ*). I ſuppoſe *Wainwright* commends *Serpentaria Virgin.* with the *Cortex*, as *Bates* does in his

Pulv. febrifug. certo. which may do well, eſpecially if we want Correctors of Crude Humours: The *Decoctum amar. alterans*, is alſo commended: But if the *Cortex* will doe, why ſhould we fly to Medicines that fail a hundred times, for the *Cortex* failing once?

As to the Reaſons of the Operation of the *Cortex*: 'tis Trial convinces us, that if you Bleed on it, the Blood will not Coagulate; ſo that if the other Medicines, ſuch are *Oc. 69. Sal. armon. Sal. abſinth*, and ſuch-like, can hinder the Coagulation of the Blood, and are given in theſe Intermiſſions; we may conclude, without the hazard of being reckon'd haſty in our Opinion, that what can hinder the coagulative Principle of the Blood, can hinder the *Rigors*, can occaſion an equal Protruſion, hinder its ſhifting, and will occaſion it to move on in the ſame Tenor as in Health, and can prevent a Fit; but I always talk with reference to proper Evacuations, to be premis'd, if poſſible, as well as proper Alteratives, if Time be allow'd us to act; but Prudence will dictate its immediate Adminiſtration, where 'tis not in our Power to proceed ſo regularly, for fear of loſs of Time.

Of Continual Fevers.

Having now done with all Fevers that ſhift, and either Intermit, or Remit; I ſhall ſpeak of the *Continual* ones, (*Synochoi*;) by which I mean a Fever that is always the ſame, never ſhifts; they are not better or worſe, have no Exacerbations nor Remiſſions; their Pulſe, Temper, and Order is equable, and the Blood always moves in the ſame manner; and as it argues a plenty of *miasma noseon*, ſo 'tis of much worſe Conſequence than any of the former, and proves too often fatal: And as in the foregoing Paragraphs, I have prov'd it of two Kinds; ſo is the one ſort of more fatal Conſequence *(generally ſpeaking)*

ng) than the other; for 'tis more hazardous to labour under a penury of Spirits, than too burdenſome a Quantity. Hence *Galen* ſays, *Ex Repletione Convulſio Sanabilis eſt per Evacuationem: Ea vero quæ fit ex Inanitione & Nervorum Siccitate non facile admittit Curationem*; which exactly quadrates with our different *Synechoi*.

It muſt then be allow'd, becauſe all Practice confirms it, that Continual, as well as other Fevers, retain to the *Cauſus*, or *Hectick*: They in the more Southern Parts of the World, and nearer the Line, are more ſubject to the Ardent Kind, and we Northern People to the latter, (at leaſt moſt frequently). And hence it is, that in theſe Parts they frequently die in two Days, and often in four and twenty Hours; for that the Blood ſo overflwels its Limits as to rend the Veſſels, and occaſion either *Hæmorrhages*, or Effuſions into the Cavities. *Galen de method. medend. L. 9.* expreſſes the method of Cure thus, *Continentium febrium præſidium maximum, ſi modo vires valentes ſint ſanguinis Diminutio vel uſque ad Deliquium animi——: Ubi horum (viz. valida virtus & ætas) alterum haud ſatis reſpondet ſatius eſt, quantum ſatis viſum fuerit, tantum principio detrahere: Quod defuit Iteratione ſupplere.* This Method they follow much in the warm Iſles, till they have brought the Motion within compaſs, as I perceiv'd from a Relation of mine, who had lived for ſome Years upon them; and at the ſame time they give all the Cooling Medicines to allay the Violence of the Fever; after which, they give the *Cortex*, if it turn Remittent: And thus they Cure theſe Fevers. The *Turks* in their Plagues uſe *Lemons* plentifully. And *Wecker* ſpeaking *de Limoniis*, ſays, *Item & ad Peſtilentes Febres & eas quæ Contagione non vacant, febribus acutis & Contagioſis mire ſuccurrunt.* Which demonſtrate to us, that they labour under the Ardent Kind: and our

Sydenham,

Sydenham, ſpeaking of the *Peſtis* reigning in *London* in 1666, ſays,—*Febris ardens uſitata Symptomatum Συνοδ᾽ῳμῇ ſtipata indeſinener ægros divexat*, and treated 'em with Bleeding to large Quantities, till he ſeem'd to be blam'd, for want of Succeſs in ſome few. So that from Authority we conclude, that when a Continual Fever ſeizes any with Symptoms of *Ardency*, tis too plain to want farther Proof that the Cure is by Bleeding and the Cooling Methods, in proportion to the Neceſſity.

They who labour under the *Hectick Malignant*, *have a depreſs'd and weak Pulſe*, *and their Heat is not very perceptible*. Tis not, in this Caſe, very likely that Nature, (pardon the Expreſſion) will ever free itſelf of its Boſom Enemy (the Putrid Particles) or ever exterminate 'em thro' any Part: And thus the poor Patient labours under a train of ill Symptoms, which take their Riſe from the moſt dangerous Cauſe in Human Frame; I mean an Exhauſtion of Spirits in the Brain; for now *ſubſultus Tendinum*, Coma's, Catchings, gathering the Cloaths, Dry and Black Tongues, involuntary Effuſions of Urine and *Fæces*; obſcure, Formicant, and *Pulſus coacervati* come on, and uſher in Death. In this Caſe the Affair ſtands thus: As the Paucity of Spirits are concluded from theſe foregoing Symptoms, ſo 'tis certain the Circulation will, in proportion, be much retarded, and every Evaneſcent Artery or Capillary will be a bar to its Motion, which the quantity of Spirits cannot ſurmount; for now they fail to be ſo denſe: So that the Trajection thro' the Veſſels ceaſes, the Stroaks of the *Embolus* begin to be too feeble to propell the Liquids in the Veſſels to the Extremities; and thus at firſt the Blood will ceaſe to move in them, and the Pulſe will not be felt to beat, or Death has begun there; for when the Immitting Force cannot conquer the Reſiſtances, there is no Circulation; and where the Circulation ceaſes,

there

there is no Life. And as each Moment draws off Spirits that are never ſupplied, no wonder the Fluids ſtagnate gradually higher, till at laſt the Blood in the Heart ſtagnates too; and then arrives that diſmal Moment when the Thread of Life is cut.

They whoſe Fortunes will not allow of a regular Phyſician to attend them in the Courſe of a Fever, now call them in to be Witneſſes of this *Cataſtrophe*, when God knows how little remains to be done: For notwithſtanding all your Endeavours, the Blood in ſome Perſons can never be made to keep on the Circulation. Whether at this Time the Blood it ſelf grows too groſs, as not to yield to any, even the ſtrongeſt Shocks of the Fibres to propell it; or whether now the Fibres in ſome Perſons may not grow Paralytick, ſo as not to be obedient to any the moſt potent Applications, 'tis equal: For either are of the laſt ill Conſequence; ſince now approaching Death makes a cautious Perſon unwilling to act, when the Actor muſt be blam'd for want of Succeſs, though the Recovery be an Impoſſibility. You are obliged here to give the ſtrongeſt *Alexipharmacks*, and apply *Bliſters* and *Emplaſt. Solearia*, to promote the Circulation, till ſome lucky Chance happen that the Particles, now ſettling upon the Organs, and creating the diſmal Symptoms, may be thrown into the Maſs, and kept moving; and then, by adding Spirits too, the morbid Ferment may præcipitate, and a Victory may be gain'd. It can hardly be imagin'd what wonderful Effects have been wrought by theſe extreme Remedies, when the Phyſician even had little Reaſon to promiſe himſelf any Succeſs from them. Which I mention, to embolden the Application to them, as long as the Patient's Friends encourage us to proceed: For I muſt own, that if *Involuntary Effuſions of* Fæces *and Urine, and if the Coldneſs of Extremities, with failure of Pulſe, and loſs of Motion of the Extreme*

Extreme Parts, can be cured by theſe Methods, as I have experienc'd they can; why ſhould we deſpair or ceaſe to act?

Here we give *Pulv. Rad. Serpent. Virg. Camphora. Sal. vol. C.C. Sal. Armon. vol. Sp. C. C. Theriac. Audrom. Elect. de Ovo.* and ſuch-like, frequently in a Day in a watry Vehicle, to add Motion to the Blood, recruit the drooping Spirits, and ſtimulate the Fibres.

'Tis cuſtomary with Authors to blend Stipticks along with Alexipharmacks, and they look on them as proper Antidotes in theſe Caſes: Such are *Bolus vera*, *Terra Sigillata*, and ſuch-like. I have all along ſhew'd that there are two States of Blood in Fevers; and as Authors have only in general told us that they are proper in malignant Fevers, to preſerve the *Craſis* of the Blood, let us ſee in what Manner they do act.

Their Effects are to clog and arreſt any rapid Motion, (by having Particles of leſs Agitation than thoſe of the Blood, *&c.*) to unite and agglutinate the Particles, too much diſſolv'd by their ramoſe Parts: And theſe are the Effects they have on the Blood. The Effects they have on the Fibres, are to ſhrink and contract them into a narrower Compaſs; from whence their Diameters are leſſen'd. From the firſt Effects they may properly enough be given in the *Ardent Kind* of *Malignants*. But if we conſider their Effects of contracting the Veſſels, we may conclude them alſo good in the *Hectical Malignants*: For 'tis a Maxim known in Hydroſtaticks, that Fluids run ſwifter through a ſmaller Tube of the ſame Altitude, than through a larger. In Malignant Fevers, with a burning Heat, as I have ſeen ſometimes along with *Hæmorrhages* and *Bloody Urine*, or *Diarrhœa's*, they are the proper Specificks. What we may ſay then, is, that in the *Ardent Fevers* they may be given in proper Doſes, as well as Acids, to impede the

the violent Motion: But in the *Hectical* they cannot be ſafely given, unleſs they be blended with thoſe of the *volatile Kind*; by which Contrivance the Blood may receive little Harm, but the Veſſels much good; the one may be attenuated to a proper Degree, and the Contraction of the Veſſels may contribute to an equal Protruſion of the Fluids: So that we ſee, though they cannot have any Effects of throwing off any noxious Matter, yet they may have other Vertues equally advantageous, and do accidentally further a critical Evacuation.

To determine the Number of *Bliſters*, you have no other *Criterion* to rely to, ſave the Pulſe and Heat; and not only they, but alſo all Internal Medicines are to be admitted or rejected by theſe Marks; for 'tis equally dangerous to raiſe too violent a Commotion, as not to exalt its Motion to a ſufficient Standard.

Before I proceed to the Subdiviſions of *Continuals*, I ſhall here remind you why the *Cortex* is not uſed in the *Continual Fevers*, which is eaſily anſwered by the Management in *Intermittents* and *Remittents*. I have before taken Notice, that all Fevers have their *Horrors*, *Heats*, and *Declinations*: And as *Intermittent Fevers* are ſo many diſtinct *Fevers*, ſo *Continuals* reſemble one Fit of an Ague: And as the *Cortex* cannot be given in either, the *Fit* of *Intermittent* or *Remittent*, at leaſt, with any Succeſs; ſo the *Continual* being but one long *Fit*, it cannot be be given in it: But as it ſerves to prevent the Return of the others; ſo may it prevent our falling into *Malignants*, if given timely before our Seizure, and by way of Preſervative.

To the CONTINUAL belong the *Malignant*, *Peſtilential*, and *Peſtis*, as ſo many different Degrees of the CONTINUAL; which are thus diſtinguiſh'd.

The *Malignant* is, when a *Continual* Fever ſeizes us with an equable Pulſe and Heat, with Symptomatical

ptomatical Sweats, Dejections of Spirits, *Deliria*, *Vigiliæ*, *Coma's*, *Tendinum ſubſultus*, *Urinæ ſtramineæ*, Dry and Black Tongues; and theſe are the Firſt Degree of CONTINUALS.

The *Peſtilential* is, when theſe ſame Symptoms ſupervene with Spots, Petechiæ, or Morbillar Efflorescenſces, and they become Epidemical, and kill many by their more incorrigible Qualities. *Vid. Vidius* tells us, λοιμώδεις --- *communiter vagantur & plures eodem tempore occupant, non tamen omnes vagantes communiter dicuntur Peſtilentes, ſed illæ duntaxat quæ pravæ ſunt, & pleroſq; interimunt eorum quos attingunt.* And *Dolæus in Feb. Peſtil.* ſays, *Multi ſunt qui peſtem à Febre Peſtilentiali diſtinguunt, ſed ſunt tantum diverſa nomina circa diverſos gradus.*

The *Peſtis* is, when this *Continual*, by the ſame Symptoms, is ſo violent, that hardly one Fourth of Mortals eſcape, which they generally do, or die in Four Days. Etmul. ait: *Omnium maxime eſt Peſtis ea vulgaris quam nunc Bubones, nunc Carbunculi, nunc Petechiæ, peſtilentiales inſequuntur.* Et paulo infra, --- *Per Peſtem nihil aliud intelligitur quam morbus maxime contagioſus & epidemicus, qui ortum ducit ex miaſmate venenato ab Aere primum ſuſcepto, & hinc per contagium propagato, quo occulte & latenter homines aggreſſus in ſummum vitæ periculum conjicit.*

'Tis plain therefore theſe Three Subdiviſions of *Continual* Fevers are different Degrees of the ſame Species, and are only diſtinguiſhable by the Degrees of Danger and Epidemicity. In ſhort, where-ever any Eruptions appear, and the Fever is very Mortal and Epidemical; and at the ſame time trade with Infected Places, brings in Goods from them, without the due Quarentines, 'tis a very ſuſpicious Caſe; and nothing but a ſuperlative Ignorance, back'd with Avarice, can blame the Suſpicion. *Willis* ſays, *Interdum*

terdum nimis ſecuri Peſtilentiam ratione ſymptomatum Febris communis amulam contemnentes pericula noſtra, non niſi ſero deprehendimus.

All ſorts then of *Continuals* may belong to the *Ardent* or *Hectical* ſort, as may appear by Practice; and *Sydenham* proves and ſhews the *Peſtis* and *Febris Peſtilentialis* of 1665, 1666, to have been *Ardent*; for he ſays, *Primus inſultus rigorem ac horrorem quemadmodum & Febrium Intermittentium acceſſiones, fere perpetuum habet comitem, mox vomitus enormes, dolor circa cordis regionem, ac ſi Torculari premerentur,* FEBRIS ARDENS *uſitata ſymptomatum συνδρομῇ ſtipata indeſinenter ægros divexant, donec aut mors ipſa, aut benigna Bubonis vel Parotidis Eruptio, quæ materiam morbificam foras ablegat eos ab luctuoſiſſimo diſcrimine liberet.* And mentions ſome Inſtances.

As to the *Hectical ſort*, read *Hodges de Peſt. Lond.* 1665. where he ſays, *Calor mitis in puellâ & admodum blandus, interiora utique manifeſto non conflagrarunt incendio. — E contra vero omnia tam pacata, tam ſerena, perinde ac ſi nulla ægritudinis procella jactaret, nedum impenderet vitæ jactura; revera mihi non conſtitit de cauſâ ægritudinis quam ſimulaſſe morbum ſuſpicabar, donec Thorace nudato in dubia hic illic ſtigmata pro more compuncta partem ſenſu vacuaſſe indicaverint, merito habita properantis Fati Arrhabone, eâdem nimirum nocte puella expiravit, vix dum vel ſuo, vel aſtantium Indicio valetudinaria. Diemerbroeck in Peſt. Noviomagens. Hiſt.* 120, *& ultim.* ſays 'tis ſometimes without a Fever; and ſo does *Barbette.*

Having ſhew'd then that theſe Fevers may be either *Hectical* or *Ardent*; let us ſee how the Authors treated theſe Perſons under the ſeveral ſorts. They who found them of the *Hectical* kind treated their Patients with warm *Alexipharmacks:* So *Hodges* commends *Sp. C. C.* ℨij. *vel* ℨj. *ex Aq. Epidemica.*

Bar-

Barbette praiſes his *Pulv. Alexiterius, viz.* ℞ *Rad. Contrayerv.* ʒß. *Petaſitid. Tormentil. Enul. Campan.* ā ʒj. *Raſ. C. C. Ebor.* ā ʒj. *Corall. rub. ppt.* ℈iv. *Cinnam. acut.* ʒij. *Antim. Diaph.* ʒß. *m. Diemerbroeck* makes uſe of this: ℞ *Conf. de Hyacynth. Sal. Scord.* ā ℈j. *Sal. Card. b.* ℈ß, *Theriac. Androm. Diaſcord. Fracaſtor.* ā ℈ij. *Aq. Theriacal. & Card. Ben.* ā ʒj *Ol. Vitriol. gr.* xij. *m. f. Hauſtus pro Sudore. Helmont de Peſte* commends theſe Seven, *Hypericon, Vincetoxicum, Enula, Dictamnus, Ariſtolochia, Laureola*, and *Raphanus Sylveſtris*; as alſo Common Rue, Zedoary, Scordium, *&c.*

Sydenham having deſcrib'd his *Peſtis* as of the *Ardent* Kind, did accordingly Bleed his Patients plentifully; and mentions one who us'd to Bleed *ad Deliquium Animi* (which is *Galen*'s Method hinted at above) ſucceſsfully, and kept 'em under a cool Regimen: 'Tis true, that he did afterwards alter his Method for a very different one, and yet ſucceeded; having, after once Bleeding, given Diaphoreticks for 24 Hours without Interruption, (in which he copies *Angelus Sala* very exactly:) However, I don't find that he did this, becauſe he did not believe the other a ſafe Method, (ſo far as appears at leaſt) but to avoid Reproach, and that he might not ſeem to ſtand alone in a Method: To which it may be added, That a *Peſtis* includes a *Complex Indication*, and is therefore conſider'd as a *Fever*, and as a *violent Malignity*, from whence there is the utmoſt Danger of the *Spirits* being *immediately* either *evaporated* (by the violent Diſſolution of the Blood) or *fix'd* (by the extreme Coagulation of it) beyond the Poſſibility of Recovery; and that therefore we are oblig'd to neglect the *Fever*, and bend our Conſideration entirely to the *Malignity*. However, there is yet one thing to be conſider'd, in relation to the Hiſtory of this *Peſtis*, which I look upon to be very material; nor do I find that any

Perſon

Perſon has yet obſerv'd it: *Hodges* and *Sydenham* ſpeak of the ſame *Peſtis*, and yet they diſagree in the moſt material Point: For Dr. *Hodges* obſerves, That Perſons, ſeiz'd, complain'd of no Heat, nor had they ſo much as any ſuſpicion of a Fever on 'em: Whereas *Sydenham* expreſſes, That they had all the Signs of an *Ardent Fever*. Which of the two to give credit to, is hard to determine; only *Sydenham* having taken up the Method of Diaphoreticks, as well as *Hodges*; to me, it is an Argument who gave the moſt faithful Relation.

Thus we ſee, that the different States, are by all differently treated; but that, as in Peſtilential Caſes, *Criſes* are not eaſily obtain'd; (for that the Humours are not Concoctible,) we are obliged to invert our Methods, to avoid a worſe Chance.

'Tis obſervable, that Perſons, *Quorum res eſt anguſta domi*, are eaſier cur'd of theſe ſort of Fevers, than ſuch who have fed plentifully, (and it may be that the *Plenitude* overſtocks the Blood with a great *Heterogeneity*, not to be met with in the Conſtitutions of the Meaner Fry) and they conſequently require fewer Evacuations: Whereas I have known Numbers of the Richer ſort who underwent a harder fate, for want of Room for ſuch Evacuations; or becauſe the Evacuations made, have neither been proportion'd to the Indication nor Strengths of the Laborant: But let ſuch thank their own Credulity, in leaving this principal Concern to the leaſt Knowing. 'Tis thus that I have often ſeen Poor Perſons labouring under Petechial Fevers, recover without any great *Apparatus*, ſave ſome gentle Evacuation proper for the preſent Circumſtances, and the Pearl Julep, and ſome nouriſhing Chicken-Broth; which more certainly produce their Effects on them, (as ſeldom being us'd to 'em,) than on the Rich. I would have it, however, remark'd here, That Young Practitioners will often

be terrify'd, in Visiting the Poor, in mistaking Common Fevers for Petechial ones; because of the Flea-bites: Which need be no farther mention'd, since this is easily discoverable by a Black Speck in the middle, which the *Petechiæ* have not; and that they disappear; but that the *Petechiæ* continue constant, or at least, upon retreating, produce dangerous Symptoms.

CHAP. IV.

Of Eruptive Fevers.

I Have already call'd these Fevers by the Name of *Neutral*, because they are not always of the same Species, but are sometimes accompany'd with an *Intermitting Fever*, sometimes with a *Remitting*, and often with a *Continual*, so far as to be Pestilential, as they have been through most Parts of *Europe* for these Five Years past.

They are such Fevers where we expect a Crisis, *by Eruptions on the Skin*; (such are the *Small-pox*, *Measles*, *Scarlet Fever*, *Rubeolæ*, *Crystalli*, *Rash* or *Febris Miliaris*, &c.) Besides the ordinary Symptoms that attend other Fevers; such are, Head-achs, Vertigo's, Inclinations to Vomit, Sweatings, Thirst, Inquietudes, *Vigiliæ*, and such-like: In these there is also superadded *a certain Oppression at the Breast, which is a distinctive Sign that ushers in these Fevers.* And 'tis observ'd by Physicians, that whenever there is any Tendency from the Center to the Circumference, that then the Patients complain of Oppressions, Loads, and inexpressible Uneasiness that chiefly affect the Breast: And whenever the Efforts, made to throw this offending Matter off to the *Cutis*, succeeds; then, and not till then, that Oppression

preſſion vaniſhes. This Oppreſſion is the uſual *Præcurſor* of all *Criſes*, even in Common Fevers: And as in theſe *Eruptive* ones, the *Criſis* is not very diſtant from the beginning, ſo the Oppreſſion is at the firſt ſeizure; whereas, in the *Putrid Fevers*, the *Criſis* ſucceeding the State, 'tis later obſerv'd in 'em. But if this peccant Matter is not ſufficiently thrown off; then, inſtead of Eaſe, by the partial Eruption, ſome dangerous Symptom ſupervenes: For where the Regular Eruptions are by any buſy Method retarded, Symptoms are uſher'd on the Parts; ſo that then they are afflicted with *Colicks*, *Deliriums*, *Coma's*, *Paripneumony's*, and many more ſuch; and the Fever is term'd *Anomalous*: Now this may happen in any *Stadium*; and therefore I wou'd have it remark'd as an *Index* of an Irregular Eruption, Maturation, or Declenſion.

I ſhall add no Reaſoning about the Nature of theſe Eruptions; ſince the Patient's being afflicted with all the kinds of Fevers, argues that the ſame Cauſes that produce other Fevers, alſo produce theſe, but that the Qualities of the Blood are of a particular Stamp, to create Eruptions; and therefore ſhall proceed.

Theſe Fevers, then, have ſeveral *Stadia*, as well as the others; but in theſe they acquire not the ordinary Appellations of *Initium*, *Augmentum*, *Status*, (which is follow'd by the *Criſis*,) and *Declination*; nor do they follow their Order. The Firſt *Stadium* is call'd the *Apparatus*, or Space before the Eruption: The Second is call'd the *Criſis*, or all the Space from the firſt appearance of any Spots or Puſtules, to the compleat Eruption of all that is to appear: The Third is in ſeveral *Inflammation* and *Suppuration*: The Laſt is, in all, call'd the *Declenſion*, and is that Space when the Puſtules ſcab, or the Spots ſcale off, and all Symptoms (if Regular) diſappear. The *Peſtis* might be, in regard of its Eruptions, referr'd to theſe Fevers; but becauſe the

Peſtis is always a *Continual Fever*, and theſe are often far from it, I thought it beſt to place it amongſt the *Continual Fevers.*

If then Symptoms of a Fever begin; if that Seaſon produce certain Fevers that are of this Stamp, we may gueſs them to be of this Kind. But in a more particular Manner, if *Loads on the Breaſt, Coughs, Aſthmatick Breathings afflict the Patient; and if the Urine ſettles with a concocted and laudable Sediment; we may almoſt pronounce, that ſome Eruptions will follow:* For 'tis obſerv'd that Urine ſettling the firſt Day, the *Criſis* will be on the fourth. *Galen de Criſibus*, Lib. 1. p. 628. l. 32, *&c.*

Our Buſineſs is next to find out the Species of Fever, and the Manner of Seizure: As, whether it be of the *Intermittent* Kind, of the *Remittent*, or *Continual*; whether it be of the *Ardent* or *Hectical* Stamp; what Habit of Body they are under. If the Fever be of the *Intermitting* and *Ardent* Kind, if the Patient be of an Athletick Habit, whatever Species it retain to, you muſt firſt Bleed in Proportion to the Ardency and Strength, and muſt repeat it, if any Occaſion urge, and give all the diluting and cooling Drugs, as has been hinted above. If the Fever be of the *Hectical Sort* give, in the Fit, the Teſtaceous Medicines in *Bolus's* and Juleps. But in the Intervals of the Fit, the *Cachexy* muſt be evacuated by gentle Lenients or Vomits, if indicated, to cleanſe the *Primæ Viæ*, nothing being proper at this Seaſon, but ſuch; (the *Criſis* being ſo near at hand,) and the *Regimen* as before; and then the Patient is to be left to the Chance of what follows, which generally is a good one; ſuch Fevers generally producing diſtinct Eruptions. In this *Stadium* the *Cortex* is prejudicial, as I have experienc'd in a Gentlewoman, who labour'd under the *Febris Papillaris*, and had the *Cortex* given by an Apothecary at the very Beginning: It occaſion'd a very irregular and odd

odd Fever; for ſome *Papillæ* that appear'd lively one Day, diſappear'd in the Night, with unconcocted Urine, and dry Tongue; and others repullulated, and diſappear'd, ſhortly after, with *Delirium's*. And thus the Struggle was continued ſometimes with promiſing, at other times deſperate Symptoms for 20 Days; and was ended gradually by Sweats, but at laſt, moſt apparently, by ſome Stools, with concocted Urine. So that though it have the Power to hinder a regular Eruption, yet it does not hinder the ill Effects of the Retention of this putrid Matter lodg'd in the *Sinus* of the Blood. Whether this Sort of *Compoſitum* is of too ſtrong a Nature to be curb'd by it, and how, I ſhan't now diſpute; but we find even the greateſt Patrons of the *Cortex* don't eſpouſe its uſe in this *Stadium*. *Mort. p.* 134. *de variol. inquit. In* Συνεχεῖ *autem varioloſâ, --- Natura propriis viribus inſtructa Victoriam Criſi perfectâ in Stadio proximo Sponte, ſine Ingrati hujus Remedii ope reportatura eſt.* And our *Syden. in Schedul. Monitor. de Novæ Febris Ingreſſu, Ann.* 168$\frac{4}{5}$ *ait. Eodem Remedio (Cortice, viz.) hanc etiam Febrim (viz. petechialem, miliarem) adoriebantur. Quod quidem licet Judicio Rationis ſuffragante tentarent (quia Intermiſit vel Remiſit) non tamen æque feliciter illis ceſſit atq; prioribus illis Annis (à* 1687 *ad* 1665*) plerumq; ceſſerat. Mihi enim quantum potui deligenter perquirenti Compertum fuit etiam magnam Corticis Quantitatem exhibitam rariſſime ægrum a morbo liberaſſe.*

What is here advanced about the *Intermittent*, will alſo hold good, if your Patient be ſeiz'd with the *Remittent*, which indeed is more frequent than the former; and as the Eruptions that ſucceed either of theſe are either of the Diſtinct, or only Coherent Kind; ſo they are generally, in the next *Stadium*, left free from Hazard, and ſeldom require more than a due *Regimen*; for the Fever either ceaſes or leſſens, and the Urine either drops a Sediment, or

has none at all in it. Which are Arguments of a partial or total Tranſlation of the morbid Particles to the Skin.

Where indeed the Fever, from the Beginning, is *Continual*, then they are *Comatous*, they are afflicted with *Subſultus*, and various other Symptoms. And if it retain to the *Hectick* Kind, or the Heat be ſmall, and Pulſe weak; we are then oblig'd to have recourſe to *Alexipharmacks* of different Degrees, in Proportion to the Defect of Spirits requiſite for a *Criſis*; for in this *Caſe* 'tis not to be expected without theſe Helps. Not many Years ago I had a Patient of twelve Years of Age, who was ſeized with a *Delirium*: Her Pulſe was obſcure, and Heat ſcarce perceptible. On the 14th of *March*, $17\frac{1}{11}^{0}$, the Small-Pox broke out; ſhe had *Petechiæ* on her Neck, Arms, and Breaſt; her Pulſe was quick and ſmall; little Heat; the Urine was *Citrin*, but without any Sediment. I ordered a Bliſter to her Neck; gave her *Sp. C. C. Gtt.* vi. in Sage-Tea. Alſo I preſcribed a *Bolus* of *Teſtaceous* Powders, and *Julep perlat.* every fourth Hour. By the Help of theſe the Puſtules broke out regularly (of the Flux Kind.) As Symptoms abated, Orders were left to leſſen the Doſes. On the 21ſt her Urine ſettled: They maturated without any Trouble to her, ſave that the *Saliva* was a little glutinous, and leſs, and her Urine not plentiful. However, her Face kept ſwell'd: I order'd her *Aq. Patroſelin* ℥ iv. *Sal. Succin* ʒß. *Syr.* e. 5. *Rad.* ℥ iß. Every ſecond Hour two Spoonfuls; a little Canary once a Day; and at Bed-time *Syr. de Mecon.* ʒ ij. The 22d, ſhe was ſtill feveriſh; ſhe ſalivated more plentifully; her Face was yet tumid; the Puſtules from crude and wateriſh, now turn white and fuller; her Urine ſettled, but ſlept ill: I order'd the ſame Medicines to be continued. The 23d, I order'd as the Day before. Her Lips ſcab. The 24th, her Salivation continues: The Urine

Urine was more plentiful, but without Sediment: The Fever leſſens: Her Face was yet ſwell'd; and her Eyes were inflam'd, and watry. The 25th, her Urine ſettled, and was plentiful; her Eyes grew better; her Fever leſs: She ſalivated yet; Her Appetite return'd; The Remedies as before. The 26th, they ſcab on the upper Parts, and do ſo below: The Salivation, and Fever leſſen. The 27th and 28th, the Salivation and Fever leſſen; Her Appetite return'd; Scabs come on every-where. The 31ſt, the Scabs fell off: No Salivation: Her Urine was *Citrin*, without Sediment: Her Appetite good: No Stools from the Eruption till now: The Pulſe was hardly frequent. The 10th of *April* we order'd ℥ iv. of Blood, which was Rheumatick, and next Day an Infuſion of *Senna* by which ſhe recover'd. Thus the Fever, though *malignant* and *remiſs*, was manag'd without any great Pomp, through the ſeveral *Stadia*, to the Advantage of the Patient.

I was called ſome Years ago to a Gentlewoman, ſeized with the Small-Pox. She had taken, by the Advice of an Apothecary, ſome *Sal. Cathart. amar.* by which ſhe was much dejected, and her Spirits were very low. Spots begun to appear, and ſhe was very fainty; her Pulſe low and quick, and Heat ſmall. By which 'twas eaſy to gueſs that her Spirits were much exhauſted. I ordered her a Bliſter, and generous Alexipharmacks. Upon which her Pulſe grew ſtronger, the Puſtules broke out plentifully, her Sickneſs abated, and, after the Eruption, a plentiful Salivation came on: And, by the Continuance of the gentler Alexipharmacks, ſhe recovered, without much more ado. The Puſtules on the Breaſt were large and veſicated.

It often happens that the Fever is *Continual* and *Ardent*; and the Management above-nam'd would be ſo far from being advantageous, that you would endanger a Train of very ill Symptoms: As I knew in a Boy of ſix Years of Age, in 1698; who,

upon being ſeized with the *Variolæ*, had *Deliria* and *Subſultus Tendinum* upon him. His Pulſe was very ſtrong and quick; his Heat very great. Upon giving *Teſtaceous Medicines*, and ſtronger *Cordials*, he grew much worſe: But upon changing theſe, for Bleeding, and cooling and diluting Remedies, he grew cooler; his Pulſe grew leſs ſtrong and ſofter; his *Deliria* abated; the Puſtules appeared; and he was cured by the cool Regimen, without much Pomp. This is not only a ſtanding Truth in the Small-pox, but alſo in all Eruptive Fevers; for 'tis certain, that if the Fever be too violent, the Eruption will be an Effect of this Violence; and we ſhall, by this Imprudence, hurry on Inflammations of the Lungs, Head, or ſome noble Part, and haſten their Exit.

'Tis remarkable, that all Eruptive and Inflammatory Fevers early require Bleedings, and other Evacuations, (if at all:) And the want of them is rarely (even in the Ἀκμῇ) recompens'd by any Sudorificks, though the Urine be concocted, and they ſeem to be indicated. But the Heat requiſite for a Sweat colliquates the putrid Matter, reblends with the Blood, impacts it into the Lungs, or ſome conſiderable *Viſcus*, and kills the Patients, when we might reaſonably expect a better Fate. Whether it is, that the more we endeavour to heat, the more we incraſſate; whether the fibrous Parts of the Blood eaſier remix; whether they are more bulky than to paſs the Pores; whether when the ſerous Parts are evaporated, the fibrous are ſtill retained; whether in this State the Spirits are too ſcanty; whether one or more of theſe contribute; 'tis little to our Purpoſe, any farther than that Evacuations are to be made very early.

I was called, 1710, to a Gentleman of Eighteen, who had the *Variolæ*: They broke out with a brisk Fever: They were of the Confluent Kind: He was reſtleſs,

reſtleſs, thirſty, and very hot; he continu'd very hot all along, from the Eruption, to the Maturation; when the Puſtules were very painful, the Fever very high and vigorous, the Arteries beat wonderfully ſtrong; the *Inteſtines* were ſo dry'd with the Heat, that we were forced to extract the *Fæces* (when the painful Throws offer'd) with Inſtruments, (for a Glyſter had no Effect, the *Fæces* being too plentiful;) there were *Petechiæ* on the Legs; the Face, Hands, and Feet were ſwell'd; he did not Salivate, but Breath'd ſhort, and Cough'd; his Urine ſettled; he was taken with a *Diarrhœa*, from whence his Right-Hand ſettled; the *Diarrhœa* continu'd for four or five times next Day, and he ſlept well; his Stomach pain'd him from overfeeding; his Pulſe was ſtill ſtrong, and the Fever continu'd; his Face ſcabb'd; his Hands fell from the Breach of the *Veſicula*, which was a Continued one: Notwithſtanding the violent Cough, by which he Expectorated plentifully, with *Linctus's* and *Pectoral Decoctions*, his Face did not fall, but Scabs grew four times upon him: At laſt a *Hectick* ſeiz'd him; but by the *Cortex* and Cooling Diet, all Symptoms, along with the Fever, vaniſh'd. I treated him with Cooling and Diluting Medicines, and Opiates at Night; Pectorals *ex Decoct. Pectoral. & Tinct. Croc. cum Syr. Balſam.* And if Sickneſs requir'd, (with Faintings,) *Teſtaceous Bolus's* with *Alcherm. ſ. m. & Julap. perlat.* I was enclin'd to ha' Bled him; but a gentle *Diarrhœa* came on, and effectually abated the *Fervor*, (which was Violent;) after which, Affairs ſucceeded well. 'Twas obſervable, That the Scabs and Cough were a *Succedaneum* for the Defect of the *Salivation*. I muſt here take notice of another Obſervable: 'Tis the Common Opinion, That the Evacuations by Blood and Stools, either contribute to prevent theſe Diſorders, when Epidemical; or at leaſt, to render 'em more

more favourable, if ſeiz'd ; neither of which happened in this Youth ; for he was both Blooded and Phyſick'd plentifully before, and yet I never ſaw any one worſe Pitted than this Perſon was : I ſay not this to diſcourage Perſons from theſe Precautions, but in order to a farther Enquiry how far they may be of uſe to what they are intended for.

I ſhall mention one of a mixt ſtamp. The firſt Day his Head ach'd : His Pulſe was weak : He was thirſty and feveriſh. 2d, He had a *Lumbago* : Fever and Sand in his Urine, 3d, His Urine was ſandy : His Fever ſtill continues : This Night ſome Pimples appear. 4th, His Urine was ſandy and bloody : Was watchful : *Petechiæ* were on his Breaſt and Knee : Fever Continual. 5th, His Fever was fierce : His Urine not bloody : He ſlept little, and had a *Diarrhœa*. 6th, He ſlept little : He had a *Hæmorrhage* which leſſen'd the Fever. 7th, The *Hæmorrhage* was large, and he was watchful, but the *Fever Hectical*, and Pulſe weak. 8th, He had a *Hæmorrhage* : the Fever was violent, with a ſtrong Pulſe and great Heat : The Puſtules were of the colour of the Skin and Seſſile ; in the Legs they were *Petechial*, ſmall and depreſs'd at top, of the confluent kind : His Thirſt was great : He had a *Diarrhœa* : Now the *Petechiæ* vaniſh. 9th, The Fever continu'd the ſame as on the 8th ; the Puſtules begin to riſe and inflame ; his Lips and Hands ſwell ; the Puſtules are painful : a *Diarrhœa* for 3 or 4 times : He was watchful : He eat Cheeſe and drank Ale ; yet at Night ſlept well. 10th, His Fever continued violent : His Urine high-colour'd, with a Sediment. 11th, The Fever yet violent : His Urine *Citrin*, without Sediment : His Face ſwelled more ; but did not ſalivate, but expectorates : The Puſtules in his Hands maturate, and thoſe of the *Abdomen* inflame : He rav'd, by drinking

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ing Claret. 12th, Face and Hands maturate: *Abdomen* and Legs red at Bottom: High Fever; Thirſty: Urine plentiful and high colour'd: A *Diarrhœa* for 4 times: His Right Arm much pain'd: He ſlept ill. 13, Face and Hands maturated: Body yet crude: A plentiful Flux of Urine made his Face fall: His Arm painful: High Fever: Slept ill. 14th, The Puſtules in the Face ſcab and maturate in the Body, but not in the Legs: He encreas'd his Fever and *Aſthma*, and made his Urine bloody, by ſtrong Liquors; beſides, he had 7 or 8 Stools. 15th, Fever was high: The Scabs of the Face fall off: Thoſe of the Hands and Body are fully ripen'd: The Legs half ripe: His Urine plentiful, *Citrin*; Aſthmatick, and ſlept pretty well. 16th, The Fever vaniſh'd: The Urine ſomewhat bloody; but by the liberty of Drinking, from this to the 24th, his *Aſthma*, *Delirium*, *Cough*, and *Weakneſs* encreas'd, and he died a Week after. It had been poſſible for this Gentleman to have eſcap'd the Small-pox if he had been regular; which yet was ſurprizing, conſidering he was then under the Operation for an *Empyema:* And the Fever was ſomewhat remarkable; for firſt 'twas the *cool Malignant*, then *Ardent*, and laſtly *Hectical*; which oblig'd us to ſhift from the *Volatile* to *Teſtaceous*, and from thence to the cooling and diluting Medicines, according to the different Degrees of Fever.

There are a couple of Gentlemen who have boldly aſſerted, that Methods may be made uſe off to hinder Eruptions, whether in the *Peſtis* or in the *Variolæ:* Their Sentiments are new; and I wiſh we may be aſſur'd of the Truth of them, by repeated Tryals; we needed not then wait for the hazardous Events from the Retreats of theſe Eruptions. Our *Sydenham* mentions a Perſon who dy'd of a *Petechial Fever*, and whoſe Eruptions and

Death

Death he blamed, for want of another Bleeding: And *Boorhaave de variolis* ſays, *Quamvis enim in hoc morbo raro Cogitetur de hac Indicatione,* (viz. *ut ſimulo Inflammatorio ablato— ſanetur ſtatus præſens & impediatur ulterior ejus progreſſus & proinde Caveatur futura ſuppuratio, Gangræna,* &c.) *& de hac Methodo imprimis* (——*quæ deprehenſa eſt in omni Inflammatorio valere ne Inflammatio in Pus Gangrænamve abeat: quum in aliis omnibus ſuccedat, hic nihil repugnet, Morbus varioloſus ſæpe ſine variolis ſit—Conſiſtet illa--in his* 1. *Mittatur Cruor (ad Citam largam pro gradu Mali moderandam aut repetendam Miſſione Sanguinis ut moles Craſſi minuatur & diluentibus Spatium Concedatur iterumque. Cita, larga,—— Miſſio Sanguinis inſtituenda —— debet Continuari in remiſſionem ſatis notabilem Doloris vel ad prima ſigna Deliquij Animi; debet repeti ex Conſideratione redeuntium Symptomatum ad quæ tollenda prima inſtituta fuit; Cruſta—abſens finen definit*) CASUS TAMEN, IGNARO MORBI MEDICO, SÆPE DEDIT SUCCESSUS PROBANTES TALEM ARTEM.

Theſe are his own Words, gathered out of his various References; and this Accident (of Ignorance I mean) I am told, has embolden'd him to follow this Practice ſince: How it ſucceeds, Time will make it out; but I believe there are certain Caſes where this is utterly impracticable; for where the Perſons are ſeiz'd with the *Variolæ* or *Peſtis* of the Hectical ſort, and under the Defect of Spirits; the more Blood they take away, the more Spirits they draw off, and there would be too few left to keep the Circulation on foot. Beſides, I have ſeen ſome ignorant Trials (of which we have too many) ſucceed ſo ill; that I doubt, in this kind, the Project will not hold Water, whatever it may do in the *Ardent* ſort.

In the ſecond Stadium of Eruptive Fevers. There is the ſame variety of States of the Fever: *Where the Eruption is compleat, and there is an* ἀπυρεξία: 'Tis then Folly to pretend any farther Buſineſs, but we ought to leave the Affair ſo; for we may, by tampering, remand the peccant Matter into the Maſs, which may give room for it to play a more tragical Game than before. I need not point out that the diſtant Interval of the Pulſe and calm Temper, will convince us of the Fever's having left the Patient.

It may, *Secondly* happen, that an *Intermitting Fever* may be join'd in this *Stadium* to theſe Fevers; and then great Care muſt be taken that theſe Intervals be not, by any buſy Method, advanc'd into a *Continent*, much leſs into a *Continual Fever*. We ought here to be Spectators, and only order a due *Regimen* as the nature of the Fever requires: For here Nature of her ſelf will conquer all Difficulties. *We muſt here again, as I have hinted above, be careful not to give the Cortex, till the Eruption is compleat*; and then, it is ſafe enough to extinguiſh the febrile Ferment, and to hinder it to create freſh Symptoms; though 'tis more uſeful in other Fevers, than the Small-pox: For 'tis firſt an ungrateful Remedy, and then, if *Intermiſſion*, or even a *Remiſſion* of the Fever comes on, a due Regimen is only requir'd, and generally ſuffices.

Thirdly, We often obſerve, in this *Stadium*, a *Remitting Fever*: And here the *Cortex* is uſeful, as in the *Intermitting*, after the Compleat Eruption; and by ſo much the more, becauſe this being a halv'd Interval, there is more Occaſion to obviate the greater Danger that may happen from Miſmanagement, which may turn it too ſoon into a *Continual*. Beſides, 'tis neceſſary to remark, whether the Fits retain to the *Ardent* or *Hectical* Species, in order to the Knowledge of the *Medicines* or *Regimen*,

gimen, which may be proper in these sorts: And Notice, moreover, must be taken, that the nigher we draw to an Ἀκμὴ in all Fevers, we must make the less free with any Evacuation, (unless Indicated by plain and almost demonstrable Signs.)

Fourthly, When the Crisis *is extremely Imperfect, and that Matter yet lodges in the Mass, (besides what is push'd to the Skin) so that the Fever proves Continual, as it always happens in* Flux-Eruptions. Then the Case is so much the more deplorable, as the Strengths of the Patient are disproportionate to the Symptoms. Here, too, the *Fever* may be either *Ardent* or *Hectical*; and you must, both in Regimen and Med'cine, alter as they require: For otherwise, if you should Bleed and Cool in the *Hectick*, or give Warm *Alexipharmacks* and *Blister* in the *Ardent*, the Consequence would be the Augmentation of those very Faults we would amend. And, by the one unseasonably given, you would, by adding more Fuel to the Flame, bring on all the Symptoms that are Companions to an Over-rarefaction of the Mass; such are, *Bloody Urine, Phrenzies, Coma's, Resorption* of the *Pus*, and an entire Suppression of the *Salivation*, and various other fatal Symptoms; for these and many more may proceed from the Encrease of the Moment of the Blood, which will produce all these, as if the Quantity were really Encreas'd; for the Vessels will in each Section contain a larger *Moles*. And besides, 'tis known by Experience, that Regular Separations are not the Effects of Fluids Irregularly mov'd: That Irregularity depends either on too Rapid or too Slow a Motion of our Blood. So that on either hand, we have it in our power to Augment or Lessen the Motion: by which we may expect a Regular Eruption, *&c.* if we proceed as prudent Men; and the reverse, if Ignorance govern us.

I shall

I ſhall take leave to digreſs a little about the Patrons of the Cool and Warm Regimen and Methods. I ſhall only mention two of our own Nation, who have *ſeem'd* to favour the one or the other: And indeed if we examine their Practice throughly, we ſhall find the Difference was but a *ſeeming* one. 'Tis true we find *Sydenham* uſes *Alexipharmacks* more warily; and *Morton* ſeldomer approves of *Bleeding*. *Sydenham* would not give *Alexipharmacks* without an apparent Neceſſity; nor would *Morton* bleed and give Coolers without an evident Reaſon: And yet when Occaſion requires, we find them to change their Methods, but with too much Regard to their darling *Hypotheſis*. The one had fix'd an *Inflammation in the Blood* for the Cauſe, and the other a *Venenum:* And we find the one, upon all Occaſions, inculcating the *Effrænationem Ebullitionis immanis*, whilſt the other preſſes the uſe of *Alexipharmacks*, in order for Expulſion of the *Venenum*. I ſhall not here take upon me to determine how far theſe Authors Works may have influenc'd young Practitioners to follow their Steps; this is but too much known in our Iſle, where many have fallen Victims to both theſe Hypotheſes, as each *Tyro* of Phyſick's Fancy led him. But I ſhall ſhew you, that they themſelves chang'd their Method, as their Reaſon guided them; which is enough for us to make uſe of our Senſes and Reaſon as they did. We find *Sydenham* allow'd a little Sack, and in his later Experience allowed of Bliſters; becauſe, ſays he, —— *Adeo ut in omnibus fere quos tractavi variolis laborantes, obſervaverim* PULSUM IN CARPO SALIENTEM ÆGRE PERCIPI POSSE HOC TEMPORE, (that is, at the Eleventh Day.) And *Morton*, in his *Hiſtor.* 55. would have Bled ſome in the Progreſs; for ſays he, FEBRIS *autem cum Delirio conjuncta jam evidenter recrudeſcebat, cute univerſâ humore & rubore Ery-*

ſepelatode

ſepelatode ſuffuſâ, atque miliari eruptione ubique in Interſtitiis Exanthematum efflorescente, unde non obſtante forti ARTERIARUM VIBRATIONE *per totum Morbi Curſum fatale Prognoſticon Protuli,* PRÆSERTIM QUIA NON POTUI ARGUMENTIS A PULSU PRÆTER MOREM FORTI ET ROBUSTO V. SECTIONIS JAM CELEBRANDÆ VENIAM A PARENTE IMPETRARE. The One then Bled, becauſe of the Strength of the Pulſe, and overbearing Vehemency of the Fever; and *Sydenham* gave Alexipharmacks, and Bliſter'd, for the Weakneſs of the Pulſe and Lowneſs of the Fever.

I come to the Third *Stadium*; where *Suppuration* is ſometimes the Buſineſs of the Phyſician. Here, too, the Fever is the Compaſs we muſt ſteer by; which now is either quite *Vaniſh'd*, *Intermits*, *Remits*, or is *Continual:* And the Kinds alſo differ here, as in the other *Stadia.* And as enough is ſaid in theſe Caſes above, 'tis needleſs to annex the Management; only we muſt remember to begin from the weaker Medicines, and aſcend gradually to ſtronger; for in ſuch Cāſes we muſt not dwell upon a Method which does not prove ſucceſsful: So where, in the *Small-pox*, the Putrid and Secundary Fever is violent, with a ſtrong Pulſe, great Heat, Anxieties, Phrenzies, gentler Coolers and Opiates are too weak, without Bleeding: Nay, in ſuch a Caſe, I find that Opiates, unaccompany'd with the Bleeding, dull the Patients wonderfully, without any Advantage at all by them. Indeed, Evacuations are not now to be attempted without extream Caution and Conſideration; but, after all, are not to be neglected, when there is an Indication, and *quod Cito fit, bis fit.* Where Nature has ſo far conquer'd the noxious Matter, as throughly to have exterminated it from its Maſs, our Buſineſs is at an End, and Prevention of its Return by ill Regimen (and all Symptoms thence ariſing when reblended

with

with it) is our Task. Thus in the Small-Pox, by preventing Symptoms that diſturb this Order of Nature, by either quelling the exorbitant Commotion, (by which the Puſtules are reſorb'd,) or by animating its Motion (for the want of which they turn ſeſſile and depreſs'd, and either impoſthumate not at all, or very little; hence *Delirium's*, *Subſultus*, and all ill Symptoms;) you may place your Patient in a ſafe Way, who before ſeem'd at the Jaws of Death. If the Fault be *local*, as it ſometimes happens, it is not amended without a local Application.

It may here deſerve a Queſtion, Why Topicks have never been made uſe of to the Face, in order to promote a *Suppuration*; for if the Face continue to ſwell much, and the *Salivation* continue, Affairs go well; And if the Reverſe happen, 'tis a dangerous Caſe. We find that the Face cannot keep up to this Pitch, if Evacuations drain the Matter through other Ports, or there be any Miſmanagement in Diet or Medicine, or any other Symptom revulſe the Humour. In ſhort, the Danger of its Retreat is never over till the numerous little Inflammations are fully ſuppurated, that is, till all the Blood, (pure and impure,) impacted into the little Cuticular Fibres, and engag'd in ſuch certain Rows of them, turns into Matter, and deſembogues into ſo many Common-Shores; and thus leaves the Blood free to circulate calmly on, without any Impediment to Motion, or leaving any extraneous Matter in it to create any farther Fever. Till this, I ſay, happens, we are obliged to ſteer with great Caution; for Reſorption of any Parcel of this ſtagnating Matter too often produces Symptoms irremediable, though under the beſt Hands. Circumſtances being put in this Light, 'tis amazing to find that Phyſicians never have attempted Topicks to haſten Suppuration in the Face, from whence ſo

many unforeſeen Accidents hurry us headlong into the Grave; for where the Deſign is Suppuration of many Phlegmons, and the Fever is a Symptom of the Pain attending the *Tubercula*, it is natural to believe what we would apply to one large *Phlegmon* to eaſe and ſuppurate it, would hardly fail to have the ſame Effect upon many. And in Effect it has been found, that *Diſcutients, &c.* applied in this Caſe, have not fail'd of their Effects, as is evident in *Diemerbroecke. Hiſt.* 13. *De Variolis & Morbill.* Where he tells, *That one Mrs.* Cowper, *by the Help of Cinnamon-Water rubb'd on the Face, prevented any Eruption there.* Hence are *Epithems* of Saffron, Roſe-Water, Women's-Milk, and ſuch like, applied to the Eyes: Hence Aſtringent Gargles for waſhing the Mouth and Throat: Hence Saffron-Stays dipp'd in Women's Milk, and applied outwardly to the Throat. We then are of Opinion, that the Reſtringent Faculty of the one, can hinder the Eruption of them in theſe Parts; and that the diſcuſſive Force of the others can diſperſe the Matter of the Puſtules. In ſhort, it is reaſonable to believe, that as we ſuppurate a *Bubo* in the *Peſtis* with good Succeſs; nay, and we look upon it as good Practice, to haſten the Suppuration of it; I cannot ſee but, by a Parity of Reaſon, we might ſafely ſuppurate the Puſtules of the *Variolæ:* For whatever Symptoms happen from the Retroceſſion of a *Bubo*, may alſo happen in the Small-Pox from the Puſtules returning or turning Seſſile. Now if theſe are poſſible; Why not Suppuration promoted there alſo? And there may be this Comfort in the Trial; that I ſee no Inconvenience can attend it, but much Good.

Another Quære *is, Whether it be good to cut the Bluſhes e're they ſcab?* I ſhall mention ſome Authorities, and give in my own Sentiments. *Riverius, Diemerbroecke*, and ſome others, ſay, That Expe-

Experience has taught, that when they are cut, they are longer in curing, and make worſe *Eſcarr's*; and therefore they believe it better to leave it to Nature. *Mayerne* adviſes cutting them when they are full, deterges them, and ſo lets them ſcab and dry. *Langius* ſays, *Where they are watry, undigeſted, livid, and from the Air, he would open them; for then the Matter is very corroſive and exulcerates the Part, and ſo makes a deep Pit; but where they are thick, white, digeſted, and concocted, he ſays there is no Occaſion.* The Practice at preſent is in diſuſe. And ſo far I can ſay by Experience, That if the Cuticle be ſeparated, and a Scab come upon it, the *Cicatrix* is very ugly; and the oftener they happen to ſcab, and fall off, the more they are mark'd; as was very evident to me in 1710, when the Small-Pox were epidemical, and very fatal, one of my Patients had them repullulate four Times, and the *Cicatrices* were the Ugliеſt I ever ſaw. And in the Main, I ſee little Advantage gain'd, unleſs we can hinder the ulcerated Parts beneath to ouze, which is dangerous; and therefore 'tis, at leaſt, not be done till a complete Maturation, and then the moſt of the Damage is over.

Having run through the various *Stadia* of theſe Fevers, I come now to the laſt, *(viz.* the *Declenſion* or *Deſquammation.)* In moſt other *Eruptives*, this is the third; but in the *Small-Pox* 'tis the fourth. If there are no Remains of a Fever, the Patients are in Safety; or if the Fever *intermits*, *remits*, or a *Hectick* come on, cooling *Decoctions*, and the *Cortex* will reinſtate them; as I lately experienc'd in a Child of three Years of Age, whoſe Siſter died *comatous* and feveriſh. She, I perceive, was held, as the Child I am going to mention: But the Fever, by a prepoſterous Method of *Cathartick*s repeated, (and ſome other Miſtakes,) miſcarried. And from hence I was called to this Child.

The Scabs were quite vaniſh'd: She had a Cough upon her, an *Anorexy*, and a *Hectick* Fever. I order'd ℥ iij. of Blood to be taken away: I gave it ʒ iij. *Cort. peruv. opt. ſubt. pulv.* to ten Grains at a Time, and to drink after it a Mixture of *Aq. Lact. alex.* ℥ viij. *Syr. Balſamic.* ℥ i ß. From this Time forward, ſhe was relieved, and in five Days her Pulſe grew calm. She had no Heat: Her Spit was concocted: She regain'd her Appetite: Her Urine, from intenſely Red, became *Citrin:* And in twelve Days ſhe was perfectly recover'd, and grew plump. If the Fever be ſtill Continual, they are in imminent Danger, and generally go off *anhelous* and *delirious*.

They in the *Morbilloſe* or *Scarlatine* Fever undergo the *Stadia* I have now nam'd, (ſave Maturation,) and they are afflicted with all Kinds of Fevers before the Eruption, at the Efflorescence; and after it is over, as I have experienc'd. And therefore all the Methods above named muſt be uſed as Occaſion ſerves.

I had the Misfortune to be called too late to a Gentleman, who, after a ſharp Fever, was afflicted with a *Diarrhœa* and *Vomiting* [*Cholera.*] His Scarlet appear'd, but preſently retreated; and his Throat ſwell'd; and he died in a high Fever in four Days. Doubtleſs, if the Apothecary had blooded him, they would have broke out regularly, and his Life might have been ſaved. I was called, two Years ago, to a Girl, who, at the Time of Eruption, had a violent Fever on her, was kept in a hot Room in Bed, and her *Regimen* was warm; whence ſhe was reſtleſs and watchful, and under Danger of of *Deliria:* But by a cool *Regimen* ſhe immediately grew better: The Scarlet appear'd regularly. She reſted, and ſoon grew well. *Morton* very well obſerves the ſucceeding Symptoms to be either *Colliquative*, and to require Opiates; or *Inflammatory*, and require Bleeding. Both which I have found true.

true. And I lately found the Colick (in a Boy, after the Meaſles) to be taken off by Bleeding, and Milk-water; becauſe of a fix'd Pain, and his being very feveriſh.

Here I ſhall crave Leave for a ſmall Digreſſion on the Puſtular Fever in 1710, which was epidemical, and very fatal. They begun with *Algors*, but not remarkable; which are certain and faithful Fore-runners, and the Date of any Fever. Next this, ſome were ſeiz'd with Headachs, others with a *Lumbago*, and many with a *Vertigo* only. But the Temper in moſt was ſo mild, that unleſs the Pulſe was narrowly felt, you would have been deceiv'd into a belief that they were only hypochondriacal: The Pulſe was *myurus*, very frequent, and beyond a hundred Stroaks in a Minute, although the mild Temper and Sighings put on the Shape of Hypochondriaciſm; ſo ſeldom did they at the Beginning complain of any violent Symptoms: For their Spirits were ſtole off quietly; and 'twas obſerv'd they died without any Struggle, and no Puſtules appeared. The ſtubborn Watchfulneſs brought on, the 4th or 5th Day, either a *Coma* or a Phrenzy, according to the Conſtitution of the Decumbent, that did not yield to Remedies. The Urine, at the Beginning, depoſited a Sediment pretty laudable, and they fell into ſpontaneous Sweats, Puſtules broke out; and thus, for a while, Affairs ſeem'd to proſper pretty well. But if any Medicines were given by ſuch as were called in, the Urine immediately became confus'd, and they turn'd comatous or phrenetick. In other Conſtitutions, it was obſervable, that if Sweats came on, the Urine remain'd concocted, Puſtules broke out, Symptoms abated upon their continuance, and they preſently recovered; nay, at the firſt Appearance of it, this was farther remarkable, that ſuch Phyſicians as thought they had found a certain Method to relieve them, and

that by Sudorificks, did at laſt find their Miſtakes in moſt others, not without Confuſion: They either died or recover'd in eight Days. This was certain, that ſome mercenary Men, at this Time, did, contrary to an Order (then in Force, for Ships obſerving a Quarantain, if from the *Baltick)* unload a Veſſel from *Sweden* with Flax, *&c.* and a certain Occaſion obliged moſt of the Inhabitants, out of Neceſſity or Curioſity, to be very near the Place of unloading: And immediately upon this, this Fever became ſo common, that every Houſe had almoſt its Share; and the Merchant, who had been guilty of this Miſdemeanour, ſuffer'd, and fell by it himſelf. But a Froſty Seaſon ſucceeding, it became leſs frequent; and, at laſt, by a ſtrong Froſt, quite vaniſh'd. I ſhall ſubjoin ſome Remarks on it, and then ſhall proceed.

Firſt, If the Patients had a ſharp and pungent Heat on them, along with a ſtrong Pulſe, and their Urine turbid, confus'd, and milky; although they ſweat, theſe were ſymptomatical; and the Eruptions, thruſt out under theſe Circumſtances, were not ſuch as diminiſhed, but added to the Symptoms. But where the Urine continued, concocted, or Concoction had preceded, and it turn'd clear or ſtramineous, and that the Pulſe and Heat were not too ſtrong; theſe Sweats and Eruptions were critical, and the Fever vaniſhed, or turn'd Remittent, and ſo in a ſmall time was breathed off.

Secondly, Where the Pulſe was weak, and the Heat imperceptible, or near the natural; then the Eruptions did not ſucceed, nor could the Blood be clear'd of them; and then the Caſe was deſperate.

Thirdly, That no Evacuation (even a Gliſter) ſucceeded well at the Time of the Eruption, if the Pulſe was weak and low; but that they either (in Proportion to the Evacuation) cauſed them to diſappear, or turn ſeſſile and diſcolour'd; and then begun

gun afreſh all the ill Symptoms, till the Blood was again (which was very hard to do) enabled to part with them.

Fourthly, That Trouble of Mind, or Concern, caus'd theſe Fevers to turn up to the Head, and either made them turn *Phrenetick* or *Comatous* in a ſhort time.

Fifthly, Where there was a large Quantity of Spirits (as was eaſily gueſs'd by the Strength of the Patient, and a large Pulſe) ſmall Miſtakes did little Harm; but where there was a Penury, any Error kill'd them irrecoverably.

Sixthly, That after the Declenſions of the Spots, if the Urine was concocted, gentle *Diarrhœa's* did Service, and, by degrees, they recovered: Nay, if they were forc'd, by Lenients, and if it was upon a concocted Urine after the State, and the Fever was long in going off, they ſucceeded well.

Seventhly, Coughs were a good Sign, if the Eruption had vaniſh'd, and the Urine were concocted, and the Expectoration carry'd off the Fever, and prevented other Accidents.

Eighthly, If the Urine ſettled, and the Pulſe grew ſtrong after the Sweats, and more ſoft, it betoken'd well.

Ninthly, The *Cortex* avail'd little before the Eruption, as is uſual in other Eruptives, but kept them in a neutral State, and they ſuffered long for it; but after the Eruption, it ſucceeded well enough.

Tenthly, That tho' Sweats ſucceeded in ſome who did follow this Method, from Nature's Inſtigation, I mean either a previous Coction, or a Serous Blood; yet it was found not to ſucceed, unleſs they continu'd them uninterruptedly, and gave them the gentler Alexipharmacks, ſuch as Teſtaceous Pouders, Julap. Perlatum, and ſuch mild Medicines, as only ſupported the Spirits, without heating the Sick;

for if you gave them to ſuch a Degree as any ways heated, the Sweats ſtopt, and they dy'd.

Eleventhly, All Evacuations were to be made uſe of from the very beginning; or they ſeldom, if at all, ſucceeded: but if you made uſe of Bleeding, Sweats, Emeticks, or Lenients from the beginning, Affairs ſucceeded well enough; only if Lenients were given after Bleeding, the Sediment in the Urine was plentifully thrown off, and the Fever, in ſome, was check'd in the Bud. As to Diaphoreticks, it is to be own'd, they ſucceeded, in ſome, at the firſt, who were inclinable to Sweats, without the Danger of over-heating; and in the older People, and in ſuch whoſe Blood was not too Viſcid, but Serous and Phlegmatick: However, the Method of Bleeding, and Lenients, with gentle Pearl Juleps, afterwards compleated the Cure moſt ſafely.

Having ſaid enough of this Matter, I ſhall, under the next Chapter, recite an Obſervation or two, to illuſtrate this Affair.

CHAP. V.

Of Criſes.

A *Criſis* is a ſudden Change, to better or worſe, in Fevers, from Κρίνω to judge; becauſe by this Change we paſs Judgment. When the Blood contains any Heterogeneous Matter, and a ſtruggle is rais'd in it to throw off this Load, it is judg'd to be ready to part with theſe Particles, when the Urine drops a Sediment, and the State is at hand; ſo the *Criſis* commences when the Blood calmly ſecerns its noxious Particles: But whether Nature will do it by the Pores, Inteſtines or Lungs, is not always eaſily determinable; for Sweats, Diarrhœa's, Coughs,

Coughs, Jaundices, and even Abſceſſes equally terminate Fevers; for 'tis not the Figure, but the Patency of the Emiſſaries, that determines the Paths of the Secretions in different Perſons; ſo that whoever has by Nature the Pores of the Inteſtines more patent and more yielding than thoſe elſewhere, will throw out theſe Morbid Particles by them. That it is not the Figure that paſſes theſe Particles, has been made evident, by ſhewing, that all the Arteries, in every Section of them, are circular; and by demonſtrating that Glands are but Complications of theſe Arteries.

In *Criſes* there are Three Caſes.

Firſt, *Where the Urine is groſs, thick, turbid, milky and confus'd, or where Suſpenſions follow a laudable Sediment, 'tis call'd the* ἔρον ἀναλελαμμένον. This is an Argument that the Morbid Particles lie buried in the *Sinus* of the Blood, and are ſo intimately blended with it, that Nature is in danger of being ſurmounted, and that the *Criſis* is not yet begun; or if begun, has gone backward: And therefore, that all Evacuations, Eruptions, or whatever Attempt Nature makes under theſe Circumſtances, are Symptomatical; and by furthering any of theſe, 'tis odds, but that you deſtroy your Patient: Which is confirm'd by *Sennertus*, ſaying, *De Febre Petechiali, ubi Coctio in Urinâ Petechiæ expellendæ, alias non.* I am not ignorant, however, of what *Foreſtus* ſays, that *Criſis agoniſtica plerunq; ſanat. L. 2. obſ. 26.* By which he means nothing farther, than that, if any gentle and moderate Evacuation, which does not weaken the Sick, happen, ſuch as a gentle *Diarrhœa* in the Small-Pox, which does not cauſe the Puſtules to ſettle, nor produce any dangerous Symptom, ſuch as Sweats before a *Criſis* in a Fever, which neither diſturb the Head, nor introduce any other Accident, becauſe they are gentle; then theſe may be overlook'd: But if ſuch

continue,

continue, and become conſiderable, inaſmuch as the Strengths of the Patient decay under them ; then it is neceſſary, according to the urgent Symptoms, *either to quell the Commotion*, by Bleeding, Dilution, and ſuch like, (only having regard, if the Fever be near the ἀκμὴ ;) or you muſt, *if the Motion be too languid*, ſupport the Spirits with Alexipharmacks, or Bliſters muſt be apply'd, till a better Chance happen. *Sometimes*, *here*, *the Cortex is of Uſe*, if there be Remiſſions, and you ſuſpect the Nature of the Fever, (but *not in Eruptive ones.)* This is call'd, The *State of Confuſion.*

I ſhall ſubjoin an Obſervation or two, to confirm theſe Sentiments, and ſhall proceed to the other two Caſes.

Anno 1710. I was call'd to a Gentleman, who finding himſelf diſorder'd, was twice Blooded: Some time after he took his Bed ; and when I came, I found him treated with Teſtaceous Pouders and Cinnabar, and with Cordial Juleps, ſtock'd with Malt Spirits, which are ſtrongly Empyreumatical ; he ſweat plentifully, and Red Puſtules appear'd copious on his Breaſt ; his Heat was ſharp, his Pulſe weak, his Urine was milky and turbid ; hence I boldly pronounc'd, that theſe were not Critical: Next Day his Urine was Crude, as before ; and notwithſtanding that we withdrew all ſtrong Cordials, he ſweat abundantly ; and after it, came on a Fetid Diarrhœa very plentifully, his Pulſe was larger, and he unexpectedly went off Lethargick ; and after his Death, Bloody Stools were thruſt out, which doubtleſs had been occaſion'd by the neglect of Bleedings, and by the Adminiſtration of the hot Cordiac's.

The ſame Year another Gentlewoman conſulted me, ſhe was afflicted with a great Head-ach, and was Plethorick ; her Heat was moderate, and Pulſe not ſtrong, ſo I only took off ℥v. of Blood, which relievd

reliev'd her Pain; I adviſ'd her to go to Bed; ſhe fell into univerſal Sweats, and her Urine was concocted; while ſhe Sweat, her Tongue continu'd moiſt, and ſhe grew better, and her Pulſe ſtronger, and more undoſe; but whenever ſhe ſuppreſs'd the Sweats, as ſhe often did, her Urine turn'd muddy, and ſhe was troubled with Vomitings; but upon taking a little *Aq. Pulli*, ſhe vomited three or four times, by which her Spirits were exhauſted; but by ſome Bolus's *of Pulv. e Chel. c. Bezour. Lap. de Goa & Alcherm.* every fourth Hour, with a little of her *Julap. perlat.* her Sickneſs abated; her Urine, from lacteal and confus'd, ſettled with a laudable Sediment, and her critical Sweats return'd; but being again weary'd with the conſtant Sweats, riſing out of Bed and cooling her ſelf, her Urine a ſecond time became muddy, and now had only Suſpenſions in it; her Tongue grew dry and black, and ſhe grew ſick and fainty, and her Pulſe intermitted. Upon renewing the *Bolus*'s with *Serp. Virg.* to ſome few Grains, and applying a Bliſter to her Neck, the *Papillæ* appear'd next Morning. I would (from the weakneſs of the Pulſe, and moderate Temper, and a comatous Diſpoſition) have apply'd more Bliſters, which were only conſented to twelve Hours after by the Aſſiſtant, who then ſaw the preſſing Danger of omitting them longer; but neither they, nor *Volatile Salts*, added to the *Bolus's*, cou'd awake her, for ſhe dy'd *Comatous* next Morning.

2*ly*, *Where the Urine is concocted and drops a laudable Sediment, or has a* Nubes *in it that laſts for many Days, which unites more and more, and at laſt ſettles to the Bottom.* This fairly denotes a *Separation*; and ſuch as *Riverius* adventures to pronounce well of, even in Peſtilential Caſes. The Sediment in Urine to be laudable, *Bellini p.* 14. *de Urin.* ſays, *Sedimentum debet eſſe figuræ retuſæ Pyramidis*

ramidis vel portionis Sphæroidis cum baſi in fundo vaſis: I ſhall add, that it ought to be equal, not farinaceous, κριμνώδης, nor like *Sperma Ranarum*; for theſe are either Tokens of Crudity or Overcoction: But it ought to be chylous, *inſtar Genituræ veſicalis*, and lie and look like White Clouds. When the Urine has been thus *à Statu*, and Sweats, or any other Evacuation ſupervene, they are critical, and to be encouraged, whether the Sediment continue, or not: Nay, 'tis better that it ſhould vaniſh, becauſe 'tis a Sign of an entire Victory; and, I doubt not, but our *Febris Anglica Sudatoria* had a Concoction previous to its Sweats.

However, I have too often found the Urine to ſettle well and laudably, and yet the Patients have labour'd under ſome troubleſome Symptoms; which ſeems to be a ſufficient Reaſon to conclude, that tho' the morbid *Miaſma* do part from the Blood; yet that that there is too great Plenty of this Matter ſtill reſting within, and that the *Separation* is only partial, and not eaſy to be expell'd, but by a nice Management, and that the *Criſis* that follows is *imperfect*. This is the Caſe in the *Flux-Pox*, where, during all the *Stadia* (even of Maturation, and during the Salivation) the Urine often ſettles. If indeed Affairs ſucceed without this Concomitant Sediment (ſuppoſing it to have preceded) 'tis a better Sign than if it yet depoſits one; becauſe it argues the Matter leſs copious in the one than the other. But if, notwithſtanding the Salivation, (which in all Fevers is a Critical Evacuation,) the Urine ſettles, there muſt be great Plenty of Matter in the Blood; and if the Strength of the Patient fail not, it argues that there is Matter enough to ſupply the Eruptions, as alſo for any gentle Evacuation attempted by Nature over-and-above: So that in a *Miliary Fever*, the gentle *Diarrhœa* is uſeful. Hence, in the Small-pox, the Salivation,

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Flux of Urine, and ſometimes the *Diarrhœa*, when gentle, are of uſe, as is the Spitting Cough, or Scabs falling off, and repullulating in the ſame Diſeaſe. Hence it appears why *Riverius*, in his *Febre Peſtilent. Monſpelienſ.* blooded the Patients, tho' they had *Parotides Criticæ*; for the Evacuation was critical, yet it was not ſufficient to evacuate the whole Matter of the Fever; ſince notwithſtanding this Eruption, all who did not Bleed, loſt their Lives. I then aſſent to him, when he ſays, *Non erat capax totam materiam morbificam excipiendi.* Hence it appears why *Sydenham*, in his *Febris varioloſa*, tho' the Urine was concocted, and Sweats came on, took Blood from his Patients; being only a *Partial Criſis*, (if any at all, which is another Queſtion:) Hence Bleeding, in his *Putrid Fever in the Small-pox*, was uſeful, the Matter being only *imperfectly* exterminated. *'Tis therefore neceſſary, where the Urine is concocted, and yet Symptoms abate not, upon ſome Evacuation that is critical, becauſe inſufficient, to proceed to ſome farther Evacuations*, that may probably have the deſir'd Effect, of either diſpoſing the Blood to ſeparate more effectually, or make it do ſo, if the Strengths of the Patient will allow: For otherwiſe 'tis a diſmal Caſe, and hard to manage the Balance level; ſince over-doing either in the warm or cool *Regimen*, is equally fatal. Indeed, in Eruptive Fevers, where the *Criſis* is not very diſtant from the Beginning, we may make free with proper Evacuations, if indicated; but in other Caſes, where the Ἀκμὴ is at a greater Diſtance from the *Apparatus*, we muſt uſe Evacuations very warily: But if Nature be ſlow in ejecting her Enemy, or the Burden be great, or do it but partially; we muſt then try the moſt gentle and probable Evacuations, to ſupply this Defect; and that is ſafeſt done by gentle Catharticks, or rather Lenients, as I have experienc'd in ſeveral, even in a critical

critical *Parotis*, but partial; for ſuch carry off the Load *per Epicraſin*, and gradually, even in Peſtilential Caſes. If what *Sanctorius* advances, held in our Clime, it would be more probable, by a Fourfold Proportion, according to Dr. *Pitcairne*, that *Diaphoreticks*, given upon a digeſted Urine, would carry off the offending Matter, than *Lenients:* But this being found by Counter-Experience to be falſe, as Dr. *Floyer* has aſſur'd us; for that we loſe only, in the Space of one Day, 6 or 8 Ounces of *Perſpirabile*, in the room of 30, 40, or 50 Ounces loſt in *Italy:* And it is probable that, in our Climate, we perſpire as much as the ſame Surface (equal to that of our Bodies) loſes in Exhalations on the Sea; for then 17 or 18 Feet Sq. evaporating 7 or 8 Ounces of Vapours, our Body of equal Surface loſes no more. And if we add half an Ounce (*quam proxime*) loſt from the Surface of our *Bronchiæ* (which, to compute, I found out a peculiar Method,) the Exhalations of Vapours from the Sea, and the *Perſpirabile* from our Pores, will in all Climates bear a near Proportion: So that in *England* we ſhall loſe 8 Ounces, whereas in *Italy* they loſe 50. Now as the above-mentioned Gentleman concluded it better to give Diaphoreticks than Lenients in a Fourfold Proportion; I may now conclude from Reaſon, back'd with Experience, that Lenients are, upon all Accounts, ſafer in our Iſle, than Diaphoreticks; becauſe there is a greater Patency of the Mouths of the *Inteſtinal Glands*, than of thoſe of the *Cutis*; and hence more can (tho' only upon Concoction juſt begun) be evacuated; and leſs Diſturbance and Commotion rais'd, than by Diaphoreticks; which can only be ſafely given after the State: And they are moreover ſo often contra-indicated, that they are dangerous, in that they often raiſe Phrenzies, by forcing the Blood too impetuouſly into the cortical

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and callous Subſtance of the Brain, from whence there is often no Poſſibility of remanding it.

3dly, *If the Patient be ſeiz'd with a Fever, and his Urine comes to a Concoction, and immediately from a true and concocted Sediment, it either turn pale or citrin, without any Hypoſtaſis; if Symptoms abate, and the Fever ceaſe and diminiſh upon it*; 'tis an Argument of a ſalubrious Tranſlation: Examples of which I have often ſeen, particularly in the Fever of 1710, where the Urine turn'd pale, and the Puſtules broke out, and left the Patients free from the *Fever*, and all its Symptoms. *But if the Reverſe happen*, that is, *if the Fever continue, and Symptoms become formidable*, this is a *fatal Tranſlation*, and under it the Spirits will ſink, and 'tis of the laſt ill Conſequence; and all convenient Helps and Remedies muſt be timely made uſe of, as has enough been hinted at in the foregoing Chapters. 'Tis to this Head is referr'd that of *Hippocrates, Quibus pellucidæ & albæ ſunt urinæ, malæ: maxime vero tales in Phreneticis apparent. L. Epid. 6. S. 4. A. 72.*

Hence I conclude, that a concocted Urine need not always concomitate a critical Evacuation or Eruption; and, in effect, we find it does not; but that however it ought always to precede one: And hence I infer, that *Rhodius, C. 1. Obſ.* 28. was miſtaken, when he tells us of a *Petechial Fever*, taken off by Sweat, tho' the Urine was crude, in the Perſon of *Angela*, Daughter of *Garoderina, non prægreſſis notis coctionis.* And *Hippoc. L. 1. Epidem. Com. 3. Ægrot. 7.* Alſo *L. 3. Epidem. Com. 1. Text. 1, 4, & ſeq., Ægrot. 3.* And *Epidem. Com. 3. Ægrot. 3.* makes mention of ſome Obſervations that have relation to this Head: But whoever conſiders, that in the *Firſt Obſervation*, there was a previous Coction, ſuch as laborious People have, and is ſufficient for 'em, as is ſhew'd above. In the *Second*, before the *Delirium Criticum* (as ſome term it) mention

tion is made of the Urine. And in the *Third*, he ſays, *Urinæ tenues ad judicationem erant*, which followed a Suſpenſion. Thus it is uſual either to have a Sediment continue, or, which is very common, to appear crude at the Inſtant, or ſome time before the Eruption, which entirely takes off the Diſeaſe; and this Date is too late to obſerve what preceded: And beſides, moſt hitherto have believ'd, where the Matter was entirely depoſited on the Organs or Parts, that the Urine was then deceitful: This is evident in Pleuriſies, where, before the viſcid Matter be impacted on the *Pleura*, the Urine has a laudable Sediment in it; but when 'tis fix'd on the Membrane, none at all: Nay, ſometimes, in Fever-fits with a Pleuritick Pain, is by all obſerv'd to be *ſtramineous* during the Pain. *Morton* ſays, *urina etenim, ut in ſpaſmis vehementioribus ſolet, erat clara ac tenuis*; for if the Urine ſettle at this time, the Caſe is very hazardous; becauſe 'tis a Demonſtration of too much Plenty of that Matter in the Blood. In *Elephantiaſes*, if they retreat into the Maſs, as I have obſerv'd them to do, upon tampering, they create *Aſthma*'s, Colicks, and many other Symptoms; but when, by a regular Method, they again begin to appear on the Skin, the Urine firſt ſhews us they are about to do ſo, by dropping a Sediment; and when this is done, it ceaſes to do ſo any farther: For the Blood having parted with its morbid Contents into the Skin, it is freed of them, and ſo is the Urine. And this is a conſtant and regular Proceedure in Nature, as far as I have had Leiſure to obſerve.

I am apt to believe the very *Peſtis* itſelf ſeldom begins without a previous Concoction in the Urine. And in effect, *Willichius in Probation. Urinar. p. m.* 300. tells us, that he diſcover'd the *Peſtis* to be approaching from the ἔργα κρίμνωσλες; however, in this Matter, moſt Authors have been ſo ſilent, as to take

take no Notice of it. Although they would not have the Eruptions expell'd, unleſs Nature had ſhewed the Way by a previous Coction, which doubtleſs muſt be early here; becauſe the *Bubo's* generally appear the 4th Day: But at the Time of the Eruption the Urine don't always ſettle.

Hence *Hippocrates*, *Aph.* 64. §. 4. ſays, *Quibus Urinæ Craſſæ, grumoſæ, paucæ, non ſine Febre, Copia ex his Succedens tenuis juvat. Tales autem maximè prodeunt, quibus ab Initio aut brevi ſubſidentiam Continent.* For it ſignifies a total and ſalutary Tranſlation. And this is, as I have hinted above, when the *Criſis* is not much diſtant from the Beginning; and 'tis a regular Procedure of Nature.

CHAP. VI.

Of Symptoms.

DE Laſſitudine Ulceroſâ. It is one of the firſt Symptoms that attends any Fevers; and becauſe they complain of Soreneſs, as if bruis'd, therefore 'tis called Ulcerous. This Soreneſs may proceed from the Miliary Glands, alter'd by the Stoppage. The External Air has Effects enough upon them, to make us think, that, by their Contraction, (and that ſo ſuddenly) the Humours not having forgot their ordinary Courſe, may ſome Way diſtend them beyond their uſual Tone, and may occaſion this troubleſome Senſation of Soreneſs. And what may add Weight to this Opinion will better appear, if we conſider what Symptoms ordinarily ſupervene the too haſty and imprudent Attempts made upon præternatural Evacuations, where nothing is more common than to have the Part, or adjacent ones, loaden with a Quantity of the Matter which was us'd to

be thrown off by that Port, and produce Symptoms more or leſs prejudicial, in Proportion to the Parts and Humours then reigning. This leads me to believe, that Wearineſs may proceed from ſome Plenitude in the Fibres, where Motion is perform'd; for by the violent Motion of the Blood and Spirits into the Muſcles, or the Stagnation of them there, the Fibres may be over-diſtended, and grow unwieldy and unfit for Muſcular Motion; and occaſion this Wearineſs. But as it requires no diſtinct Methods from the Fever it ſelf, no farther need be ſaid of it, than that a Languid Fever, and an Ardent one, muſt guide us.

A *Vertigo*. The Phyſicians heretofore believ'd it to proceed from the *Rotatory Motion of the Spirits*; but till the learned *Bellini* took it under Conſideration, the manner of their Motion was not fully explain'd. 'Tis certain that Objects, whoſe Rays fall upon the ſame part of the *Retina*, appear to be in the ſame Place, or at reſt. And on the contrary, an Object at Reſt, then is thought to be mov'd, when its Image is painted ſucceſſively in different Parts of the *Retina*, ſuppoſing the Eye, unmov'd.

Now the *Retina* and Object are the only Requiſites to be conſider'd, whether an Object really moves or reſts: But when there is a *Deceptio Viſus circa motum*; an Object appears to move, when we know it is at Reſt: Therefore we conclude, ſince the Object moves not, the *Retina* only muſt move. Which this Gentleman conſidering, immediately begun to think how 'twas poſſible for the *Retina* to be moved; which could hardly fail to occur to any Perſon who knew the Structure of the Parts ſo well: Such uſeful Diſcoveries Mathematicks can and do make! The Arteries then, when over-diſtended by Accumulation, or the encreaſed Quantity in ſlow or violent Fevers, lift the *Tunica Retiformis* higher than uſual. And this *Dimotion* happens in eve-

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ry *Diaſtole*; ſo that in every Pulſation the Patient becomes vertiginous in Proportion to the Diſtenſion. The Caſe of Drunkards makes this more evident; for having ſtretched their Veſſels with a Quantity of an active Liquor, the Carotid Branches are overfill'd, and occaſions this *Vertigo* uſual to them. But as no Function is hurt by it, no particular Regard is had, in the Cure of it, diſtinct from the Cure of the Fever in general; which, as I have ſufficiently inculcated, is as the Motion offending, which indicate the cooler or warmer Regimen and Methods.

Cephalalgiæ, or *Head-achs*, are occaſion'd by Diſtenſion: For the Veſſels are either ſtretched from the too rapid Stream of the Blood, whence the Veins cannot ſo ſuddenly return the Quantity contained; or from its too languid Motion; from whence it comes to paſs, that the viſcid Particles, clinging cloſe to the Walls of the Veſſels, obſtruct its free Paſſage into the Veins, and conſequently its free Return.

Now according to theſe differing Manners of being produc'd, the Methods taken, ought to be various; for in the former Caſe the Heat is ſharp and remarkable, and the Pulſe is ſtrong: And therefore Bleeding is abſolutely neceſſary, to prevent the rending the Veſſels or *Hæmorrhages*; and externally apply a cooling *Epithem* to the Forehead of *Fol. Roſ. rub. coct. cum Aceto acerrimo in patinâ ſupra Carbones cui addi poteſt Sacch. Saturn. ad gr. aliquot*, or ſuch-like, and make uſe of *Opiate Emulſions*, or ſuch gentle *Opiates* as will allay the Pain; for nothing, ſave ſuch Emulſions, with the *Cold Seeds*, or *Syr. Papav.* in Barley-water, are ſafe. And evacuate the *Fæces* (which, diſtending the *Inteſtines*, preſs upon the *Iliacks*, and hindring the Deſcent of the Blood, the upper Parts are loaded in Proportion to this Impediment) by Glyſters of *Decoct. Comm.* or Houſe-Glyſters.

ſters. But if the Heat be imperceptible, and the Pulſe weak and ſmall, then the Pain is gravative; for then the Blood gravitates on the Membranes by Accumulation. In this Caſe give the *Teſtaceous* and *Volatiles* for the Fever, give them a Glyſter for the ſame Reaſon as afore-named; and clap on a large *Bliſter ad Nucham*, to revulſe the Humours from the Head, to add a briſker and livelier Motion to the Fluids, to hinder their Stagnation, and to evacuate Share in ſuch a Manner as the Nature of the Fever can allow off.

Deliria are Dreams of thoſe that awake; and are Incoherences, occaſion'd by a Motion of the Spirits diſproportionate to the uſual Mean of Nature; for if the Spirits, whoſe Motions are in Proportion to that of the Blood, move in too full a Stream, the Tubes of the Brain become over-tenſe; and if they are too few, theſe Chanels are not ſtretch'd enough, and their Courſe is interrupted, and the Brain too ſcantily ſupplied. But though 'tis difficult to explain how our Idea's are confus'd, (for Experiment here is impoſſible;) yet Experience evinces us, that in either State we talk inconſiſtently. *Phrenſies* are the Reſult of the former, and Simple *Deliria* of the latter State. However, though God has united a Form to a Material Being, and the ſecret Manner of their Communication cannot lie under our Trials; yet we can come ſo near as to ſay, that our *Idea's* are the Spring of our Actions; that theſe *Idea's* are conformable to the Motions of the Blood and Spirits; and that if the Fluids move on in a Hurry, our *Idea's* and Actions are furious; if calmly, they are moderate; but always in this Caſe unreaſonable: For Judgment and Reaſon are the Product of a certain Proportion of ſound Spirits, and a right Structure of the Brain. The former is evident from an *Exhauſtion* or *Aquoſity* of Spirits; and the latter, from Prejudices re-

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ceiv'd by Falls. Whatever then deſtroys the bleſſed Mean God has been pleaſed to place us under, in any eminent Degree, That infallibly impairs our Senſes, and cauſes a *Delirium.*

The Remedies then of *Deliria* cannot always be by the ſame Methods, ſince the Reaſons differ ſo much. In the former Caſe of *Phrenzies*, the Heat of the Blood is generally pretty remarkable, and the Pulſe is ſtrong, (unleſs the Blood be too much impacted; for then 'tis ſmall, becauſe the Oppreſſion, being great, obſtructs the Exit of the *Liquidum Nervorum* into the *Villi* of the Heart; yet the Actions are ſtill furious, they have Strength enough, and their Eyes are inflam'd.) When the Pulſe is under theſe Circumſtances, you muſt Bleed; where once, often, ſuffices not, and make uſe of the cooler *Regimen:* Let them ſit up ſometimes; and after a while, give *Lenients*, (if indicated from the Heat abating, and Sediment in the Urine,) at leaſt uſe pretty ſharp *Glyſters:* And laſtly, *Opiates* to quiet the *Vigiliæ*, which are the conſtant Concomitants of all *Deliria.* If Bleeding cannot take Place, (becauſe of their Weakneſs, or the Nature of the Fever,) *Cupping* (at leaſt) will; where four Ounces weaken not ſo much as two from the Arm, though the firſt be Arterial, and the latter only Venal: Becauſe, as *Kiel* well obſerves, the Contraction and Depletion are in the former done in the ſame Time, where there is only a Priority of Reaſon between the Contraction and Depletion; but not often ſo, in the latter. You muſt alſo apply to the Soles live Animals ſplit, or *Theriac. Androm.* to allay the impetuous Motion upwards, or *Pediluvium Fulleri* for the ſame End. I don't approve of *Emeticks*, if the Blood-Veſſels are already over-ſtretch'd; for thus you may impact the Blood ſo violently into the ſoft Subſtance of the Brain, that it will be impoſſible ever to recall it. In Effect, he that conſi-

ders how much Vomiting haſtens the Circulation, or gives himſelf Leiſure to view a Perſon Vomiting whilſt he is bleeding at the Arm, will be convinced of the Truth of what I ſay. And over-and-above, I have ſeen the ill Effects of it in *Prenetick Fevers*, which ought to deterr us from the Uſe of them. It is every where believed that Phrenzies do depend on this Cauſe; which is confirmed by the Learned *Baglivi*. And I remember to have open'd one who died *phrenetick*: E're I could ſeparate the *Cranium*, a conſiderable Quantity of Blood was ſpilt; and after its Removal, I perceived the Veſſels even down to the *Corpus Calloſum* ſtrangely over-ſtretch'd with Blood, and the *Sinus Longitudinalis & Laterales* alſo. This I believe the rather to be the Caſe in furious Phrenzies: But the Perſon, I now mention'd, died of a Comatous Phrenzy. Some Years ago I was called to one, who was ſeized with a Putrid Fever: He was blooded; but the Fever ſhortly turned up to his Head, and he fell into a *Delirium*; neither was his Heat great, nor Pulſe ſtrong. I order'd him a Bliſter: But at my Return from the Country I found him worſe, and perceiv'd him to have rav'd more from the Bliſter, and his Tongue grew dryer; and withal, finding his *Facultas Locomotiva* vigorous enough, I order'd him a Glyſter; after which he was Cupp'd, to no Effect, for no Blood would come. I then order'd bleeding in the Leg, to ſome Ounces; after which I gave him a Mixture of ſimple Waters with *Volatile Salts* and *Laudanum*, to be given at ſuch Intervals as to give him Reſt; and applied *Theriac. Andromach.* with *Ol. Mac. Chym.* to his Soles. And thus in three or four Day's his Pulſe grew ſtronger, his Urine ſettled, and he recovered.

Where the Heat is ſmall, and the Pulſe is weak, and they grow weak, with *Subſultus Tendinum*, and *Coma's* under theſe; then you muſt ſteer another Courſe:

Courſe: You muſt apply Bliſters to the ſeveral Parts, as Neck, Arms, Whriſts, Thighs, and Calves of the Legs, and *Emplaſtra* or *Cataplaſmata Solearia*, to irritate the Fibres to continue on the Circulation without Interruption, and internally give all the Medicines requir'd by the Nature of the Fever to ſupport the drooping Spirits. One Obſervable, in this Sort of *Delirium*, is, that juſt before they rave, and while it laſts, the Pulſe is generally much eclipſed and deficient. I could mention ſeveral recover'd under theſe Circumſtances, whoſe *Fæces* and Urine dropp'd involuntarily, and whoſe Extremities have been almoſt cold, as I have hinted above. In all *Deliria* Care muſt be taken to know what becomes of the *Fæces* and Urine: Heedleſneſs, at firſt, may cauſe them to neglect to urine, which the Fulneſs of the Bladder may afterwards hinder; for that the Power of the *Detruſor Urinæ* being leſſened, from the lateral Preſſure encreas'd, the *Sphincter* is leſs preſſed upon, and ſo the *Facultas Retentrix* is ſtronger than the *Expultrix*, (to expreſs it in the Language of the Antients.)

Convulſions are involuntary Motions of the Muſcles: They, in their ordinary State, are ſubject (by a moſt wonderful Providence) to an *Imperium Animæ*; and they are not mov'd, but by a joint-Influx of the Blood from the Arteries, and Spirits into the Fibres. This is the Reſult of Experience: For tie the Crural Artery of a Cat at the *Inguen*, and by this the Influx of Blood will be impeded into the Leg, ſhe immediately loſes all Motion on that Leg, below the Ligature: Again, tie the Nerve of the contrary Thigh, and ſhe then loſes the Motion of that Leg. From which Experiments 'tis evident, that neither Blood nor Spirits alone, but a Concurrence of theſe Juices, (or ſome *Airy Elaſtick Corpuſcles*, compos'd of theſe Juices,) will inflate and move the Muſcles. Now, if equal Parcels of theſe Liquids are diſtri-

buted into *Antagoniſts*, and equally inflate the *Area* of the *Rhomboidal Veſiculæ*, then the Muſcles act equally, and the Part is kept in a Tonick Poſture: But if either Muſcle has a greater Quantity pour'd into it, That is contracted, and the *Antagoniſt* is relaxed; and, *vice verſâ*. 'Tis plain then, where-ever the Balance lies, there will the Motion be perform'd: But this being alternate in common Convulſions, the Muſcles will be alternately (but always irregularly) mov'd, that is, convulſed. This may either depend upon a violent Motion of the Fluids, or one too languid; for in the former, the Fluids, as in the latter, are irregularly mov'd. In a State of Health, unleſs we command them, they are quiet, and the Fluids are only diſtributed to them in ſuch a Quantity as may ſerve for Nutrition: But when that Mean is loſt, by Depravations in their Qualities, or Changes in their Quantities, their regular and ſtated Motion is ſucceeded by another impelling Cauſe in the Tubes, of a different Stamp from that which is ſubject to the Will. This is true in particular as well as univerſal Convulſions.

Bellini ingeniouſly takes Notice, that where there is ſuch a Paucity of Spirits as cannot equally inflate the Muſcles at once, there may happen a *Momentary Palſy*, which bears the Reſemblance of a Convulſion. But this is what happens in dying Perſons in Fevers; for where one Muſcle is ſo ill ſupplied with Spirits, as that their Courſe is often interrupted, for want of a ſufficient Fulneſs of the Chanels; then, where-ever that Defect lies, that Muſcle flags, and loſes its *Æquilibrium*; and the other, that has more, is contracted or convulſed. Hence theſe *Subſultus*, at the End of Fevers; and the Diſcovery of this Palſy, is from the Weakneſs of the Pulſe, as well as the imperceptible Heat of the Patients at this Time; and then too, they ſeldom want *Comatous Deliria*, and other fatal Symptoms. But where the Perſons

Perſons are ſeized with Convulſions under a ſtrong Pulſe, and a vigorous Warmth, then we may conclude theſe involuntary Motions evene from the too great Plenty of the Fluids irregularly mov'd. Hence, in ſhort, it may be concluded on, that Bleeding and *Sal. prunell.* Opiates and the diluting Medicines are neceſſary in the latter Caſe; while Bliſters, Volatiles, and the warm Cephalicks, are Remedies in the former.

I cannot ſufficiently wonder at the Road of ſome Practitioners; who, whenever they preſcribe to convulſed Patients, are ſure to croud in all the ſtrong *Hyſtericks*, without any Regard to Conſtitution, which ought always to be our *Cynoſura* to ſteer by. I know a Lady, who is Cramp'd upon the Autumnal and Vernal Changes: She cannot bear the Heat of the Fire, without Danger of being drawn up; and who, upon the common *Anticonvulſives*, was thrown into the very Fits ſhe was labouring to prevent: She is of a hot Conſtitution, a quick Wit, and her Pulſe and Warmth are quick and ſtrong: But the cooler Methods of a Milk-Diet, *Sal. prunel.* nay, even *Sp. Nitr. dulc.* allays them. I ſhall mention one Obſervation more, to confirm, that Convulſions are cured by a Regard had to the Temperament: I had a Patient, who was ſeized with that Species of Cramp, called *TRISMOS:* She had juſt ſo much Room left, as that ſhe could be nouriſhed with Liquids. However, her Mouth was ſo violently ſhut at ſometimes, that ſhe was forced to uſe a Wooden Wedge to keep it open. The Difficulty I labour'd under, was, how I ſhould diſcover whether this could be called a Palſy of the *Digaſtrick Muſcle*, or a Contraction of the *Crotaphites.* I found the Diſtinctions given in by *Riolanus*, and ſome others, miſled me; and I applied a *Bliſter* to the *Nucha*; as ſoon as this began to have its Effect, I was made very ſenſible of my Miſtake; for

it

it threw her into Cramps in her Arms and Legs. Upon this, I fell to a different Method, and gave her what would not heat her, along with *Opiates*, at due Diſtances, and ſhe grew daily better; and in ſix or ſeven Days ſhe open'd her Mouth perfectly well. This, beſides many other Arguments, convince me, that Convulſions are not to be taken off, without a due Regard to the Temperament. The beſt Diſtinction I made uſe of, to diſcover whether this was occaſion'd by a Palſy of the *Digaſtrick*, or no, was thus: I perceived the *Digaſtrick* did move the Jaw a very little downwards, which a Paralytick Muſcle could not have done.

Lethargi, *Catalepſes*, *Cari*, *Comata*, *Apoplexiæ*, are profound Sleeps, and Degrees of them, which I ſhall not ſtay to name. Senſe and Motion depend on a certain Diſtribution of Spirits into the Organs, without which 'tis impoſſible for them to act: So an Interruption of theſe Senſations and Motions depend upon a Stop put to theſe Diſtributions. Now, if the Blood gravitates on the Membranes, the Medullar Subſtance, and the Origine of the Nerves, 'tis evident that the Paſſage of the Spirits muſt be obſtructed; that there muſt be a Privation of Senſe and Motion, or both; ſince either are but a Conſequence of ſome Degree of an interrupted Stream of this Fluid into the Parts. This Caſe may happen from either State of Blood: For how frequently does it occur, in the Beginning of Fevers, along with a ſtong Pulſe, that a *Sopor* happens? Now this cannot, fall out without Accumulation, and, conſequently, Oppreſſion of the Parts affected. If the Pulſe is ſmall, ſome Particles of the Blood are propell'd till the arrival of others; and the ſlow Motion heaps too much, at leaſt, more than can be reconveyed in a ſeaſonable Time; ſo that it gravitates, oppreſſes, and obſtructs the Paſſages. And thus Spirits are not rightly diſtributed to the Parts, nor, conſe-

conſequently, Motion or Senſe; and the natural Sequel is one of the above-nam'd Symptoms, in proportion to the Cauſe. I don't at all queſtion but this Oppreſſion may often happen from an Obſtruction ſomewhere in the *Infundibulum*, or its ſubjacent Gland, from any viſcid Matter impacted; and then the Ventricles fill with Serum: And, in effect, I have ſince remark'd, that *Lower de Corde*, *p. m.* 71. takes notice of this very Caſe: But this Sort, I am apt to believe, oftner, if not only, occurs in Chronical Caſes; as do Convulſions, from the Suppreſſion of an uſual Flux from the Noſe, which I have ſeen ſo fierce, as to pervert the *Axis* of the Sight, convulſe or contract the *Infundibulum*, hinder the Return of the *Lympha* from the Ventricles, and fill the Brain with Serum, and kill.

The Difficulty of the Cure depends on the Degree of Impaction, which is often irrecoverable; becauſe the Veſſels are ſometimes broke, and Blood is extravas'd on the Membranes, or even into the *Cortical* and *Callous* Subſtance of the Brain: And as 'tis impoſſible to recall this, into the Circulation, Death is inevitable; but where the Fulneſs of the Veſſels only occaſion it, then Evacuations are to be made uſe of: And becauſe too much Blood is heap'd up, therefore, in the former Caſe, large Quantities of Blood are to be drawn off, from the *Jugular*, (as an immediate Drain from the Part affected) upon a double Account; which is that of the violent Motion, which hurries in, too large Supplies, to the Quantity already lodg'd: And thus they anſwer the twofold Indication of diſcharging the Load, and allaying the Commotion; by which laſt, freſh Supplies are cut off. Here too 'tis uſual and uſeful to apply Bliſters; for tho' they are really contra-indicated, in regard of the violent Motion; yet where we are oblig'd to riſque a ſmall Damage, for a great and certain Advantage, Reaſon will inſtruct us to balance

balance the Scale: For the ſtrong *Oſcillation* of the *Membranous Fibres*, by which the Fluids can be hurry'd forward, are more than a Balance for the Commotion they add to; for, by them, the Capillaries are ſqueez'd, and their impacted Contents are driven forward, (from the Conqueſt of all the Reſiſtances.) As to the reſt, 'tis well known, that Apoplecticks, with a Plenitude, and in hot Caſes, bear no Volatiles, but *Sp. Sulph. vitrioli.* and ſuch cool Medicines.

Dr. *Cole* is very laviſh in Bleeding in original Apoplexies; but the Fever being *prior* to the Symptom, muſt cauſe us to be wary in the Quantity drawn off. In ſhort, if the Stomach is laden with any *Saburra*, *Emeticks* are very proper, and *Cathartick*s and *Cephalicks* are to be us'd; and (if occaſion require) *Sternutatories*. *Dekkers* orders very ſharp Glyſters, ſo far as to cauſe Blood to come away. *Bayle*'s Caution about *Emeticks* and *Sennertus*'s, about *Sternutatories*, are not without Grounds, which are theſe: Where there is a *Plenitude ad vaſa*, the Succuſſions (whether by Externals or Internals) may hazard the Rupture of the tender Veſſels of the Brain, which are of themſelves too flexile; and as the Subſtance of the Brain is ſoft, and yields to any, even the leaſt Impulſe, the Conſequence of ſuch an imprudent Procedure would be an irremediable Effuſion and Death. Where theſe Diſorders happen to the weaker People, to the ſedater Fevers, with ſmall languid Pulſes, Bliſters are the ſafeſt Remedies, along with volatile Medicines, to rouze them, and add Vigour, as Experience has convinc'd us; for otherwiſe you take off the Diſeaſe and the Diſeaſed together. 'Tis neceſſary to conſider how Fevers, if Epidemical, terminate; for if they terminate in ſuch dangerous Symptoms, it will be neceſſary to prevent them, if you are call'd early enough. As to thoſe Apoplexies occaſion'd from the

the Ventricles fill'd with Serum, the Diſcourſe appertains not to this Place; neither do I ſee any Method to evacuate this fatal Plenitude.

Watchings are the common Reſult of either State; and whether the Motion be too violent, or too ſlow, they generally are watchful: 'Tis indeed, in the former Caſe, more uſual to hear them complain of a *Pervigilium*; and this alſo is commoner, where any Eruptions are about to enſue. Sleep ſeems to depend on a Quantity of Blood, not circulating freely: Our natural Actions require and preſuppoſe a Stock of animal Spirits: And a State of Quiet, free from the Hurry of a Blood variouſly agitated by our Muſcular Motion, is the fitteſt Opportunity to have them recruited. We cannot well doubt how ſuch Quantities are ſtor'd up, if we take a view of the Structure of the Brain, and its Bulk, in proportion to the Nerves that run from it: For if the whole *Syſtem of Nerves*, and every Nerve were quoyl'd up, they would hardly amount to the Bulk of the *Thalami nervorum opticorum*; from whence it may be inferr'd, that theſe large Protuberances, at the Exit of the Nerves, muſt be ſo many Tubes, turgid with almoſt an Overcharge for the Fibrils of Nerves that are without the Brain; ſince each Thread of a Nerve is but Productions of the former, and not more numerous than they: And thus the Brain is a Fountain of Supplies. Hence the Stock bred in Sleep, is, in Proportion to our Exerciſe, expended and exhauſted, in the Day-time, by every Action. Now, as the Expence is conſiderable, the Fibres muſt ſink in their Dimenſions; and containing leſs Fluids, will approach nearer to a Contact. Thus 'twill fall out, that our Body will naturally ceaſe from Action, that the Entrance to the Particles of Blood will be ſlow, and this Liquid will be heap'd into the Brain, and the Change of Poſture will eaſily retard the Circulation, till the

the Brain, again turgid, reſtores it, and then we awake. Thus 'tis likely that Watchings conſiſt in a certain tenſeneſs of the Fibres of the Brain; and as too rapid a Motion fills the Tubes and keeps us awake, ſo one too ſlow makes me believe the viſcid Particles (which are the Vehicle of the Spirits) are too groſs to enter the ſmall Fibrils of the Nerves without the Brain, and it may be kept ſtretch'd with an Overload, whilſt a *Penury* is evident without it: And thus Convulſions often happen from an unequal Diſtribution of Spirits to the Parts. And here, 'tis evident, ſome Nerves are often obſtructed, whilſt others are too plentifully ſupply'd, and all the while the Origin of Senſation is confus'd: For what is more common than, in *Deliriums*, to find *Subſultus Tendinum*, and involuntary Effuſions of *Fæces* and *Urine*?

The Cure of Watchings, are, by correcting the Motions. For Bleeding (repeated as requir'd) in the Ardent ſort, leads the Van; it ventilates and hinders the too plentiful afflux to the Brain. Diluents are here neceſſary too, from the nature of the Fever, and *Syr. Papav. Rhæad.* in Barley-water, or Emulſions, are requir'd. And we muſt proceed thus, till we gain our Point; for as Symptoms are Arguments of the erring Motions; ſo long as they laſt, we muſt perſiſt in proper Methods adequate to the Ailments. Sleep is the beſt Concoctor of Humours: For *Sanctorius* tells us, *Dormientem plus perſpirare vigilante*; he only means, if moderate; for he tells us, *Per nimium Somnum Interiora & Exteriora frigeſcunt.* If Watchfulneſs proceed from the oppoſite State of Motion, 'tis very conceiveable, *Opiates* are dangerous: And indeed, I never find *Opiates* given in ſuch a Caſe, but that, after the Adminiſtration, they grow more languid and faint, their Tongues grow drier, their Pulſe weakens, *Gravative Head-aches*, and *Delirium's* ſupervene, along

along with *Subſultus* and *Coma*'s, and all the Tokens of a failure of Spirits; and therefore here 'tis only ſafe to truſt to the *Bliſters*, the *volatile* and *teſtaceous* Medicines requir'd by this State of Fever.

Vomiting is an immediate Reſult of a convulſive Motion of the Coats of the Stomach, along with (if not only, as my ingenious Acquaintance Dr. *Purcell* ſays) a Convulſion of the Abdominal Muſcles; ſome extraneous Matter ſpued from the Glands into the Cavity, galls its Walls, and invites a copious Influx of the Spirits, and convulſes it to exonerate; for Evacuations are a conſtant Conſequence of Irritations.

I have ſeen a *Cholera* proceed from Excoriations along the Canal of the Stomach and Inteſtines. This often happens to Children who have the *Aphthæ*, and an Evacuation of green Choler. I ſaw this once happen to a Lady, in the Year 1699, who had labour'd under the *Flux-Pox*, and who after the *Deſquammation*, fell into a *Hectick*, ſhe (before any thing was taken) fell a Vomiting and Purging, and voided vaſt Quantities of Scales, along with a brown *Sanies*; till, at laſt, the *Gula* and Parts about the *Pharynx* were ſo excoriated, that ſhe refus'd to take any thing; expreſſing her choice of Death, rather than undergo the rack of ſwallowing.

Whether this Symptom be under the Ardent or Hectick ſort of Fever, ſomewhat muſt be ſuperadded to theſe Medicines, to correct the ſharp Particles extravas'd; as alſo ſuch Medicines as will allay the Irritations, ſuch as Opiates, *&c.* *Riverius*'s Mixture is very good (*viz. Succ. Limon. Cochl.* ℥j. *Sal. Abſinth.* ℈j.) or if Cordial-waters, both ſimple and compound, along with teſtaceous Medicines (and Opiates in violent Vomitings) be added, 'twill be more effectual. But it often happens to be a

Critical

Critical Effort, as Alleviation and the concocted Urine teſtify; and then we may encourage it with gentle *Emeticks* of *Pulv. Rad. Hypocacuan. Sal. vitriol.* or ſuch-like; but even Chicken-Broth is ſufficient, where there is a great Propenſity to Vomit: And when you have done enough, then give the *Antemeticks* above-named. As to the vomiting from *Excoriations*, nothing conduces, ſave the ſmooth, *mucilaginous*, and *glutinous* Medicines; as I have found in a Gentlewoman, who, from a ſtrong *Emetick* given, threw up a *Schirrhous* piece of Fleſh which had grown on the Stomach; after which ſhe could retain nothing ſo long as mucilaginous, *oily*, and *opiate* Medicines; but neither them, in any Quantity. And ſo we ſee in common *Aphthæ* the *Gargariſm. Alb.* cures them, they being from the eroding Particles of the *Saliva*.

Dyſenteries, *Diarrhœa's*, accompany all ſorts of Fevers. I have already ſaid, that Evacuations preſuppoſe an Irritation, and is therefore, by all, aſſign'd as the firſt Cauſe; and 'tis probable, that ſome Particles, flowing from the Blood, are depoſited in the Inteſtines; and that, by this *Stimulus*, the Motion of the Blood is determin'd thither by the forcible Contraction of the Membranous *Villi*: from whence 'tis manifeſt that the *Tubuli*, and Channels of the Veſſels are fill'd and ſtuffed with a Quantity of Blood. And the more flexile the Gutts are, and the more incapable they are of any ſtrong Reſiſtance, the eaſier they yield to the Moment of the præterfluent Blood, and the more they are ſtretch'd; from whence will follow an effuſion of their Contents. The greater the Diſtraction is, the greater Quantity will be thrown off: A leſs Diſtraction will only give an *Exit* to the thinner Particles, but the greater to the Blood it ſelf. But unleſs a general Plenitude give Riſe to a Flux of Blood, it commonly happens from an

Inflammation

Inflammation of the Parts, and ſometimes 'tis a Sequel of a Critical *Diarrhœa*. Effuſions of Blood are of known Danger, ſince even *Diarrhœa's* are eſteem'd of ill Conſequence, eſpecially if the Perſons are weak, they be ſymptomatical and plentiful; or if they come upon any Eruptive Fever, ſo as to weaken. Drink *Dococt. Alb.* in both Caſes; give the *Teſtaceous Pouders*, and even *Opiates*, ſuch, as *Theriac. Androm. Diaſcord. Fracaſtor.* &c. If Bleeding can be bore, by reaſon of the Strengths of the Patient, 'tis required in a *Dyſentery*. A *French* Gentleman of the *Society* brought over from *Cayenne*, in the Year 1710, a Root of the Figure of *Bryony*; and ſo porous, that, in a Piece of eight Inches in length, a Candle might be blown out thro' it, which effectually takes off a *Dyſentery* in two Doſes; as I have had occaſion to make Trials in the preſent Caſe, which produces no other Change, ſave immediately checking the Flux: A Specimen of which I made a Preſent of to the curious Collector of ſuch Rarities, the Hon^d. Sir *Hans Sloane* Bar^t. M. D.

Colick, Iliack Paſſion. It does not always happen that theſe Pains depend on Inflammations of the Guts, (as *Screta* will have it;) for it does not conſtantly fall out that the Pain is fixt in one Spot, nor that the *Fæces*, in paſſing, create a Diſturbance; on the contrary, it comes to paſs that there is an Obſtruction (partial or total) of the *Fæces*, and the Pain runs from one ſide to the other, as the Tract of the Gut lies, which ſhews that there is another Cauſe. In Fevers, the Heat of the Parts (depending on the Juices that paſs through them) has an Effect upon the Juices, *&c.* that lodge in the Cavities: And conſequently, whether there be any Phlegm ſticking to the Coats, or *Fæces* in the Paſſage, this Heat can raiſe the one into *Bullæ*; (for Water and Serum, we know, can

be rarefy,d into Air) part of which fills the Cavity; whilſt the Bulk ſticks to the Inteſtines, and inflates 'em; or the Humidity may be evaporated from off theſe Coats; and the *Fæces* may ſtick in their way, downwards; and in Proportion to the Drineſs of the Fibres and *Fæces*, produce an Obſtruction; and as there is a Detruſive Motion, by a *Periſtole*, more is heap'd up, the Parts are more diſtended, and the Pain becomes leſs tolerable.

So far as this Pain is Contra-indicated by the Remedies proper for the Fever, ſo much Danger it carries along with it; becauſe we are often forc'd to have recourſe to Evacuations, which retard a Regular *Criſis*; or Obtunding Medicines, which are as Dangerous as Evacuations.

If we find that the Pain is fix'd about the Navel, that they paſs the *Fæces* with Pain at a certain Place, that the *Fæces* change their Figure, that Breathing affects the Place, and the Pulſe be very vigorous, we may conclude 'tis an *Inflammation*. In this Caſe, you muſt Bleed as much as the Strength of the Patient will allow, and repeat it as Occaſion requires. Throw in Emollient Glyſters frequently, which ſerve as Fomentations: Give 'em Cooling Emulſions warm'd, and gentle Anodines. If it proceed from any other Cauſe, and that Glyſters don't anſwer, as they never do, when the Continent Cauſe reaches higher than the beginning of the Colon; then recourſe muſt be had to ſuch Catharticks as, we judge, will have their deſired Effect: And becauſe, by this neceſſary Method, we endanger the Regular *Criſis*, by weak'ning the Patient; therefore we muſt fly to Opiates, to allay theſe Contractions, along with ſuch Alexipharmacks as the Caſe requires: And if it yet mount higher, as it does in the Iliack Paſſion, *Opiates* ought to be mix'd (as the prudent *Riverius* adviſes) along with the *Purgatives*, and *Mercurius Dulcis* too.

Nauſea;

Nauſea; *Anorexia.* The firſt, I take to be a Diminutive Vomiting. The latter, indeed, depends on a certain Structure of the Stomach, as well as a certain and determinate Quantity of an *Eſurine Juice*; for an *Atony* or a Defect of this Natural Juice (whoſe Nature is chang'd to an *Exotick* one, and ouzes into the *Sac*) deſtroys the Appetite. Whenever we find the Patient ſeiz'd with theſe Symptoms, (after the *Horrors*, which ſeize *prior* to all other Symptoms,) then a gentle *Emetick* is very convenient; or, if the Patient cannot bear one, a gentle *Lenient* may ſuffice: Sometimes it may be repeated, 'till the Symptom abate: And thus, too, the *Fomes* of the *Fever* is abated, and prepared for farther *Alexipharmacks*.

Thirſt, or the Senſe of want of Liquids, is generally in Proportion to the Drineſs of the adjacent Parts to the Mouth, unleſs they be *Delirious*. The too violent Circulation, hinders the Secretion of *Saliva*; or the too ſlow, makes it Viſcid; and the Lungs contribute to it too, by the hot *Effluvia* thro' the Noſe and Mouth. In the too violent Commotion of the Blood, *Acids*, with *Watry Medicines*, do beſt; ſo *Barley-Water*, with *Juice of Lemons*, *Sal Prunell. Claretum Cober.* Water and Toaſt, are here moſt proper. But where the Spirits are weak, theſe are ſo far from abating it, that they clog 'em more; and 'tis beſt done by Thea, Sack-Whey, and ſuch as open the Glands.

Horrors, *Rigors*, are thoſe Shiverings from whence we date a *Fever*, or ſuch as come on at the *Criſis*: They are Convulſive, (ſhall I ſay, or Paralytick?) Affections of the Muſcles, from the Irregular Influx of the Spirits into the Fibres; which are either oppreſs'd or detatch'd irregularly, and ſo are a Bar to the Circulation in the Extremities, or have ſome Acrimony in 'em that occaſion this Irritation. If they continue long, you are oblig'd to give 'em

Volatile Medicines, or Brandy-Spirits, or warm Wine. They are not always Attendants on the firſt Paroxyſm; but in Malignant Caſes, and before great and Critical Sweats, they frequently come on.

Pains, are troubleſome Senſations, ariſing from ſome diſproportionate Object inhering in the Part affected, or periodically thrown there: And as this may be either in the muſcular or nervous Parts; ſo the Cauſe may affect either; but with very different Conſequences; the one not having ſo exquiſite a Senſe as the other, will not produce ſo dangerous Sequels, nor require ſo potent Remedies. Now the Cauſe may be the ſame, that produces theſe Pains in different Parts, and may be but the Reſult of the different Variations of the Texture of the Fluids, or their Quantities, metaphorically increas'd: For as, in the firſt Caſe, the viſcid Particles of the Blood are forc'd thro' the Capillary Veſſels, with ſome Difficulty, in Proportion to the Senſe of the Part; the Pain is, as the Diſtenſion of the Fibres beyond their uſual Tone: So, in the latter, the Diameters of the Veſſels being over-and-above enlarg'd, become an Impediment to the Circulation, and over-ſtretches the Parts, and occaſions the ſame Diſorder: But in Spaſmodick Pains, the Caſe is very different; theſe being Cramps, or painful Contractions of the Muſcles, from ſome irritating Cauſe: Theſe are the divulſive, jerking Pains, that draw the Muſcles into involuntary Motions, and commonly have *Subſultus* join'd with them. Sometimes Pains in Fevers are more Endemical than at other Times, from the Nature of the Air's Preſſure (abſtracting from any other of its Qualities:) For as it is obſerv'd, that a Bladder, half blown, ſwells, upon pumping; ſo alſo it is remark'd, that Animals ſwell, upon pumping too, in a *Ratio* to the Quantity drawn off; ſo do all Liquors follow the

ſame

ſame Meaſures. Thus, in the warmer Weather, the Preſſure of the Air being leſſen'd, the Blood in our Veſſels, in Proportion, rarefies and diſtends, and ſtops in the Capillaries; and, according to Mr. *Boyle*'s Obſervations upon his own Hand in the Air-Pump, violent Pains ariſe. Whatever be the Original of theſe Pains, Opiates are always one Requiſite to allay them. If the Pain be Inflammatory, Bleeding ought to be made uſe of, and repeated as often as it is neceſſary; and afterwards we muſt make uſe of Attemperants and Diluters of the ſizy Parts. If the Pains are purely *Spaſmodical*, and from diſorderly Motions in the Spirits, Opiates (with Volatiles, if the Spirits want rearing) are the proper Remedies. If from any particular Acrimony lodging any-where in the Stomach, as in *Cardialgiæ*, then the Teſtaceous Pouders are convenient.

Verminous Fevers are of all Sorts; and over-and-above the Medicines and *Regimen* indicated by the Fevers themſelves, you muſt add the anti-helmintic Medicines. There are no Symptoms they don't introduce; and whenever Symptoms evene that are ἄτοπα, or referrible to no Head, we ought to ſuſpect Theſe. The Nature of the Fever diverſifies the Vermifuges; for that, in the *warmer kind*, *Coralline*, and ſuch-like, are only proper; whereas, in the Hectical Sort, *Ens Veneris* is a noble Medicine. I was call'd to ſee a Boy of Four Years Old, who had fallen into a high Fever, with a *Delirium* immediately: I order'd him Bleeding, and cool Emulſions, which took off the violent Commotion and *Deliria*; and when the Child came to himſelf, he complain'd of a violent Pain in his Belly, an Itching of his Noſe; and the Mother perceived the Startings, with gnaſhing of his Teeth, when aſleep: I order'd ſome Vermifuge Medicines in an Electuary; upon which he voided a large Worm, and the

Fever ceas'd, and he recovered. Every little Symptom of Worms ought to be ſuſpected, and provided againſt, ſince theſe Medicines are not contra-indicated by the Fever. And thus I have immediately (tho' much contrary to my Expectations) cur'd ſeveral advanc'd in Years; and particularly a Gardiner above Fifty Years old, who complain'd of ſome Symptoms that ſeem'd to argue that he was troubled with Worms; and upon blending of Vermifuges along with the Medicines proper for his Fever, he voided ſuch Quantities by the Mouth, that he had well-nigh been choak'd by them.

Puerperal Fevers are Shelves poor Females are often ſtav'd upon: They are generally Inflammatory, from the Inflammation of the *Uterus*, which ariſes from the Suppreſſion of the *Lochia*. Cuſtom has prevail'd, among the ignorant or obſtinate Midwives, to allow the *Laborants* Chickens, and ſuch Fleſh-Diet, as they pretend cannot prejudice them; to riſe out of Bed three Days after their Labour, and to take ſome Turns a-croſs the Chamber; from whence I have ſeen the *Lochia* ſtopt or leſſen'd, and thence *Deliria* or dangerous Fevers; and yet 'tis eaſy to prevent theſe, if the Ladies can be aw'd: 'Tis common for hard Labours to produce them, as I have often known. If we are called in immediately after the Miſtake, it may be prevented, by giving Tincture of Caſtor, or Spirits of Hartſhorn in Rue-water, *&c.* and giving them their Diet warm, and ſo diſpoſing them to ſweat. But when the Fever is begun, if they be Plethorick, and the Fever of the warmer Species, Bleed in the Arm, and then in the Foot; and after this throw in emollient Glyſters to dilate (by manner of a *Fotus*) the Orifices of the Glands of the *Uterus*, whence the *Lochia* will flow afreſh. Alexipharmacks (with the Cautions above-nam'd) muſt be given, and the Diet cooling or refreſhing. If inflammatory Symptoms come

come on, ſuch as Pleuriſies, Angina's, Peripneumonies, *&c.* you will ſee below how to treat them.

If the *Lochia* are over, Bleeding and Purgatives (if indicated) may ſafely enough be made uſe of, as I have often experienc'd.

Inflammations (ſuch are Pleuriſies, Peripneumonies, *&c.*) ariſe from a viſcid Blood ſtopping in the Capillaries, and diſtending the ſenſible Parts beyond their ordinary Bounds. Now 'tis conceivable enough how this happens; for if we conſider the Structure of the fleſhy and membranous Parts, we ſhall find that their original Contexture is *Reticular*; ſo that a Bar put to the Motion of any Moment of Blood, will ſwell and enlarge the Fibril that contains it, by the Quantity that follows. This Encroachment upon the neighbouring Fibres will alſo ſtraiten their Channels; and thus hourly the Infringement encreaſes, and, in Proportion to the circulating Maſs, the greater will be the Impaction; the larger the Diſtenſion, the more intenſe the Pain will be; till at length, by Art or Quantity, the Veſſels are ſtretcht beyond a Poſſibility of containing more; and then they *impoſthumate*, and create *Abſceſſes*, by Breach of the Fibres into one common Receptacle.

In all ſuch Diſorders, plentiful Bleeding is abſolutely neceſſary; for whether we conſider that the Pain raiſes and keeps on foot a violent Fever, or whether that the Riſque of Impoſthumation is run for the want of it, 'tis upon both Heads indicated. In which 'tis far from being neceſſary then only to ceaſe, when the ſizy Blood appears no more; for thus we ſhould act blindly; ſince this Blood ſometimes appears not, from the very manner of Bleeding; for in a ſmall Orifice, thoſe Drops that fall into the Diſh coagulate too ſoon to ſwim on the Cake, as this Size does as being lighter, and, conſequently, loſes the Power of mounting; but alſo the Pulſe ought to guide us in Evacuation. Give 'em the

cooling Ptisans of *Barley-water*, *Liquorice*, *Raisins*, *and Figs*; give 'em *Sal Prunell.* in their Liquors; but avoid *Acids*, for fear of further Coagulations: give 'em *Linctus's* of *Ol. Amygd. d. Syr. Capillor. vener. & Sal Prunell.* Cordials of *Aq. Lactuc. Paralyf. & Syr. violar.* along with some gentle *Opiate* of *Syr. Papav. Rhœad.* and such-like: We may anoint with any emollient and discutient Ointments: Care must be taken of catching Cold, which I have found, even when Affairs went well, undo all. I have known some Pleurisies so quick as to spit Blood of a bilious Colour from the Moment they were seiz'd; but such carry great Hazard along with 'em, especially if they are of a full Habit, or have got it by a Debauch; and are what *Jodocus Lommius* calls *Erysipelas Pulmonum.*

To know whether a Pleurisy be an essential one, or the Symptom of a Fever, is very necessary to a Physician; the Want of which, has cost many Lives. I remember to have been call'd to a Young Man who was seiz'd with Symptoms of a Fever, (*Rigor, Head-ach, Nausea, Faintness, Heat, and Quickness of Pulse*;) he took, as the Custom prevails here, some *Theriac. Androm.* to raise a Sweat: It had the desir'd Effect, and he had a Remission of half a Day; but venturing abroad, in the Afternoon he was seiz'd with a Pain on his Side; which the Assistant taking for an *Essential Pleurisy*, Bled him plentifully; (he never spit Blood, as I could learn;) after which they gave him *Physick*, and then fell to *Pectorals.* I was desired by the Apothecary, his Master, to visit him: I found the Symptoms as I have described them; and found him with Blisters rais'd on his Hands, *anhelous*, with a *Pulsus myurus*, a dry and black Tongue, *comatous*, and with *Subsultus*; and, in fine, with all the Symptoms of a fatal Fever; and so he died in a Day after. The Discovery is thus: Any Disorder is Symptomatical, when

when it ſucceeds another preceding Diſorder; when the Symptom encreaſes or remits, as the Diſtemper that firſt ſeiz'd does; and when the Symptom is periodical. As to the particular Caſe in Diſpute, *Sydenham* tells us, *p. m.* 223. *In tali Caſu Symptomata Febris Capitis Dolor, Artuúmve præcedunt; Expirante Pleuritide durant.* And again, *Ballonius Epidem. fol.* 208, ſays, *In omni Febre Eſſentiali cum junctus eſt Dolor Lateris; Febre auctâ, Dolor augetur; at in verâ Pleuritide; augetur Febris, aucto Dolore.* The Reaſon of ſo careful a Diſtinction, is, becauſe tho' the *Pleuriſy* require many Bleedings, the Fever cannot allow of ſo much; and beſides, the *Fever* requires other Med'cines, than the *Pleuriſy* does, when an Original one. What I've ſaid, of diſtinguiſhing *Pleuriſies* from *Pleuritick Fevers*, muſt be apply'd to *Original Rheumatiſms* and *Rheumatick Fevers*; where the profuſe Bleedings indicated in the former, are inemendable Faults in the latter.

Symptomatical Sweats, are ſuch, where the Diſeaſed find themſelves no Better, if not Worſe. In all Sweats, the *Serum* is expreſs'd and ſqueez'd out of the Pores; but whether it be *Symptomatical*, 'tis beſt gueſs'd at, by the Effects and Crudity of Urine. Some of the putrid Particles being as yet blended with the *Serum*, may paſs the Glands; and thus it often happens, that when a Deciſive or Critical Sweat comes on, there is leſs to be paſs'd: And therefore, if Symptomatical Sweats are not immoderate, they are not immediately to be curb'd; becauſe they are preparatory to Critical ones. The Febrile Ferment ſeems to be lodg'd in the *Serum* only; becauſe either Sweat or Urine will carry off a Fever; and Bleeding, only *per Accidens*; this being moſtly a dangerous, or an unfaithful *Criſis* at beſt. How too quick or ſlow a Motion may occaſion 'em, I conjecture, may be thus. We are

ſure,

ſure, the Openneſs of the Pores muſt give the Outlet to the Watry Particles; they muſt either be ſqueez'd out by the Weight of the Circumambient and Containing Fibres, which having loſt their Tone, from the loſs or want of Spirits, (which, we know) keep 'em Tenſe to a Connatural Degree, that their Walls may not approach to a Contact) do collapſe and flag, and cauſe the Liquids to obey their Oſcillations. Now, by how much the Weight of the Fibres is beyond the Reſiſtance of the *Serum* they contain, ſuch Diſproportion is there in Efflux of Sweat; ſo that in this Caſe, ſomewhat will be extruded; but the *Syncope's* and *Coldneſs* of what is expell'd, and the Clammineſs of it, argue a mighty Vappidity of the Liquids, and Decay of Spirits. This is the Caſe in ſuch Fevers as commonly merit the Denomination of *Malignant* or *Peſtilential*; in which the *Indicia* of Vigour are wanting, and the Spirits are either fix'd or evaporated. But in ſuch Fevers as approach to the *Ardent* kind, the Reaſon is very different; for the vigorous Propulſion of the Blood, fills and diſtends its Channels, and, like rapid Torrents, o'erflows its Banks; ſo that the thinner Parts will be thruſt off more or leſs vigorouſly, as the Channels are more or leſs full; yea, it often happens in this Caſe, that *Hæmorrhages* are a Sequel of this extraordinary Commotion and Diſtenſion. The Deſtruction of *Æquilibrium* in any degree, is dangerous; and as theſe Sweats are *Index's* of Exceſs or Failure of Motion in our Fluids, they require the ſame Method as the Fever indicates, only that the Degree may be aſcertained and encreaſed by them.

Eruptions, *Spots*, *Bubo's*, *Carbuncles*, &c. Many Inſtances from the moſt approv'd Gentlemen in the Faculty, as well as our own Experience, convince us, that they proceed from either Condition of Effer-

Efferveſcence. The *Serum* plac'd on the Fire, congeals, in a ſhort time, into a *Craſſamentum Album*; in which about One Third of its Weight is loſt, to make it ſo. Now, Heat acts in us, as it does without us; and thus, we conclude, the Thinner Parts evaporate and leave a Viſcidity in the Juices; and this Viſcid Blood ſtops at the Capillaries, (whoſe Diameters want Room to receive 'em;) and the Liquors behind preſſing on without free Paſſage, elevate the *Cutis* into Puſtules. Now this Intumeſcence may either depend upon the Juices which become Viſcid from Evaporation, or other heterogeneous Mixtures that coagulate the Blood; and conſequently, either an *Ardent*, or a *Hectical* ſort of Fever, may produce 'em. But if they once become conſiderable when form'd, they require particular Remedies: So *Bubo's* require Maturatives; nay, Cauſticks, or the Lancet, rather than they ſhould retreat; and then Digeſtives, as common Ulcers: Only the Phyſician muſt be wary, not to Bleed when a *Bubo* appears, (unleſs the Motion overbear extravagantly;) nor muſt the Blood move ſo impetuouſly as to raiſe Sweats; but gentle *Alexipharmacks* muſt be given to ſupport the Spirits. *Carbuncles*, are known by Blackiſh and Purple-colour'd Puſtules, inflam'd at the Bottom; they are generally Mortal: The Actual Cautery around 'em; then Digeſtives, as in Ulcers, Cures 'em, (if poſſible.) *Parotids* are to be handled as *Bubo's*. I need not repeat here, what I have ſaid of *Imperfect Criſes*, and therefore ſhall ſuperſede any farther Notice of them.

Hæmorrhages may be occaſion'd by the Breach of the Veſſels, either from the Diſtenſion caus'd from the *Ardent* or *Hectical* ſorts of Fever. I here ſay nothing of *Critical* ones, which muſt be ſuffer'd to run as long as Symptoms abate, without Diminution of Strength. The Heat of the Room, contributes

contributes much to them: For the compreſſive and reſtitutive Force of the Air being in a reciprocal Proportion, as much Weight as it loſes by Heat of the Room, ſo much will the Globules expand and enlarge their Dimenſions, and over-run its Limits. We muſt make uſe of all Aſtringent Remedies to cloſe the Veſſels, ſuch are *Styptic. Regis*, *Sacch. Saturn. Sang. Dracon. Acet. Stillatit. Corall. rub. Croc. Mart. aſtring. Conſ. Roſar. rub. Syr. Myrtin.* along with *Aq. Plantag. Germ. Querc.* and ſuch Things to mix with them. But externally, I find nothing for *Hæmorrhages* at the Noſe, better than blowing up a little *Colcothar*: It pains them a little for a while, but does effectually; (firſt having made them blow out the Cakes.) *Roſe Buds*, *Equiſetum*, *Plantag.* and ſuch Things in Decoctions, do well for *Fotus* to other Parts.

If any Fluxes happen in the Small Pox, Meaſles, or Peſtis *after the Eruptions*; ſuch as a *Mictus Sanguineus*, *Lochia*, *Menſes*, *Dyſenteria*, *Hæmoptoe*, *Diarrhœa*, *Cholera*, and *Lochia*; one or more together, as *Lochia* and *Dyſenteria*, &c. We are oblig'd to curb the Flux, and mingle ſuch Medicines as may comfort and ſupport the Spirits; but theſe are deſperate Caſes.

If any Inflammation (ſuch is an Angina, a Pleuriſy, &c.) *come upon a Puerperal Fever, when the* Lochia *are on*; 'tis too a dangerous Caſe: However, the Inflammation being the more dangerous Symptom, muſt be cured by Bleeding, (not exceeding,) and yet not to neglect the Fever; but as *Vidius* has it, *Quis autem eſt iſte cui Exploratum id ſemper eſſe poſſit: Quiſve eum delectum teneat, ut ubi Cogitur, minus malum ſuſcipiat Cauſâ majoris Evitandi.*

Ophthalmia, is a frequent Diſorder after the Small-Pox. The Reaſon of Inflammations being given in above, I ſhall not here repeat it; but ſhall note, that beſides, *Bleeding*, and *Cathartick*s mix'd with *Mer-*

Mercurials, the common Topicks in *Collyrium's* often fail; as, I remember, happen'd to a Child, who had made uſe of all the common Remedies, and yet remain'd entirely blind on both Eyes; The Eyelids were Schirrhous. But after a *Suffitus* with *Cinnabar*, a *Cataplaſm* with *Emollients* and *Diſcutients*, covered with *Cinnabar*, and ſome of it mix'd in a *Collyrium*, recover'd her, after ſhe had been blind for above a Quarter of a Year, and thought paſt Recovery.

Dropſies frequently follow Fevers, from the Exhauſtion of Spirits, and the ſmall Liquors drunk in the time of the Fever. But a Doſe or two of *M. P. Rud.* with *Merc. Dulc.* will evacuate the watry Particles from the Blood; and the Infuſions of *Bitters* with *fix'd and volatile Salts*, will prevent its Regeneration, by invigorating the Maſs. As to Local Faults, (ſuch are *Phymoſes*,) *Diſcutients*, after Evacuations, are neceſſary.

Diabetes. I have known this unlucky Symptom happen after the Meaſles; whether from any fuſing Principle in the Blood, or any Laxity in the Kidney-Glands, or both, I ſhall not determine; only ſhall remark, as *Sydenham* does, that *Diarrhœa's* and *Diabetes* are cured by the ſame Methods, (*viz.* by *Rhabarbarates*, *Agglutinants Mucilaginous*, *Stypticks*, and *Opiates*,) I found the *German Spaw-Water* cure, (by correcting the Acrimonious Humours, and conſtringing the Glands,) after proper Evacuations. This is the *Febris Uretica*, when it happens with a Fever.

CHAP.

CHAP. VII.

Recapitulation.

HAving thus run over ſome of the principal Caſes that attend or follow Fevers; I ſhall take Leave of the Subject, firſt recapitulating what I have advanced.

I have endeavour'd to make it plain that Fevers are generally the mediate Product of ſome deprav'd State of Blood, put into a Hurry from ſome external Accident of the Air: That the Pores are very alterable in their Diameters, and can be changed into a Compaſs in Proportion to this Impulſe of Air; and therefore can either paſs a large Quantity of the *Perſpirabile*, or can retain more of *it* than they ſhould. In the latter Caſe, Fevers are a common Attendant, as *Sanctorius Aph.* 11. *Sect.* 1. makes it plain, ſaying, *Si ex Staticis deprehenditur impeditam eſſe Perſpirationem, diebus ſequentibus vel ſuccedet plenior Perſpiratio vel aliqua Evacuatio ſenſibilis vel Cachexiæ veſtigium vel* Febris. The Blood thus diſturb'd, produces the Fever, and all Symptoms along with it, which are *Index's* of the particular State of Blood then reigning. But I could never obſerve two Perſons in Fevers held in the ſame Manner, although *Epidemical Fevers* were then on Foot: For the Air may be ſo unwholſome as to affect abundance at the ſame Seaſon, eſpecially unwary or tender Perſons; yet all theſe never are ſeized but with much Difference from each other; one having a very high and ſtrong Pulſe; another a very low one: One with *Inflammations*, another with *Pains*, a third with *Vomitings*, and a fourth and fifth with ſome different Symptoms: So that the Fevers, ſome Learned Perſons have obtruded upon

us,

us, as the ſame in ſuch and ſuch Years, can ſignify no more than as a Direction to us, how ſuch Fevers (if any ſuch happen) ſhould be manag'd. Indeed, if Perſons under ſuch a Habit only are ſeized, and with equal Strengths, we may expect the ſame Methods will ſerve: But having had Hundreds under my Care, I never yet found this hold true. However, I know no Fever, from a *Diary* to a *Peſtis*, which not only admits of, but requires, proper Evacuations to unload the Veſſels, or *Primæ viæ*, of part of the offending Matter, eſpecially if there be a Tendency to a *Criſis*.

The Species of Evacuation is determinable from the State of Blood denoted by the Symptoms; but the Quantity, from the Strengths of the Patient. For it ſeldom happens that a real *Abſumption* of Spirits is the Cauſe of the weak Pulſe in the Beginning of a Fever, but rather a Fixation of them; and conſequently Evacuations are always required. However, ſince the Blood or Humours offend in Quantity moſtly, Evacuations are then proper; and eſpecially, we muſt begin very early with them, in Malignant Caſes, or *Poſt eſt occaſio calva.*

1. *Where-ever the Heat is great, and the Pulſe ſtrong; or where the Heat is not conſiderable, ſo the Pulſe appear oppreſſed, and the Strengths of the Patient have not been weaken'd by any preceding Accidents*; Glyſters, Bleeding, Cupping, Leeches, Diluents, Papaverines, and ſometimes Acids, are neceſſary. If inflammatory Diſorders or violent Pains afflict your Patients (whether the Pulſe be ſtrong, or even if weak, ſo it be only eclips'd) Bleeding is neceſſary to clog the rapid Motion of the Blood; which, by puſhing on ſo violently, daſhes againſt the Veſſels, and ſtops itſelf. Bleeding alſo is neceſſary in *Plethorick Perſons*, to take off the burdenſome Load. In *Hæmorrhages*, if the Blood-

Veſſels

Veſſels are overcharg'd, Bleeding often relieves ſuddenly: But I have ſeen the diſmal Effects of it in Petechial Fevers, with a weak Pulſe; where the Lancet is often too ready for the pidling Reward.

Phrenzies require Bleeding, and can hardly be cur'd without it, becauſe they are Inflammations; but as they generally happen at the Ἀκμὴ of the Fever, Caution muſt be uſed: *Comatous* ones don't require ſo much drawn off, as the *Furious Species*. But how it comes to paſs that Bliſters are ſo indiſcreetly made uſe of in Phrenzies, has always been to me ſomewhat ſurprizing. In ſuch Caſes then you muſt avoid all *Theriacal* Medicines. In the *Apparatus* of the Small-pox, ſuch Medicines muſt be avoided as raiſe any Commotion; and even the ſame Caution holds good in any *Stadium* of the Small-pox, ſuppoſing the Heat and Pulſe contra-indicate. In Youth, eſpecially in Wine-Drinkers, when Fevers ſeize, Bleeding, and the ſame *Regimen* are generally requiſite. *Coma's* and Symptomatical *Petechiæ* often oblige us to take the ſame Meaſures. The *Second Fever* of the Small-pox (which generally proceeds from an inſufficient Extermination of the morbid Matter) is often ſo violent as to require Bleeding. Great Difficulties of Breathing (whether convulſive *Aſthma's*, ſuffocating *Catarrhs*, *Peripneumonies*, or congenial to theſe,) neceſſarily require Bleeding, with a plentiful Hand: Nay, in *Ardent* Fevers, tho' the Pulſe appears ſmall, (if oppreſs'd,) it is to be ventur'd on.

2. Where the Heat is inconſiderable, the Pulſe is weak (tho' quick:) The gentler *Alexipharmacks* are proper; ſuch as the *Teſtaceous* Pouders (*Crabs-Eyes*, *Pearl*, *Coral*, *Oyſter-ſhell*, *Crabs Claws*, &c.) ſo that they are proper, where ſome critical Eruption has been impeded. In Fevers of Old Men; in Miſtakes from Evacuations, where too much is drawn

drawn off; where there is any Faintneſs or Sickneſs at Stomach, or any Pain at the Pit of it; or where the Matter (that, by the Efforts of a *Criſis*, has appear'd externally) retreats into the Maſs again; in a Difficulty of Breathing, from ſuch a State, (that is, with weak Pulſe, and Coolneſs in the Habit;) in an *Epilepſy* in Eruptives; in a Salivation ſuppreſs'd.

3. Where the Heat is hardly, if at all, perceptible, and the Pulſe is very ſmall; where the Extremities are cold; in ſuch a State, we muſt have recourſe to the warmer Alexipharmacks, ſuch as *Rad. Serpentar. virg. Volatile Spirits*, (of *Hartſhorn*, *Salt Armoniack*,) and the ſpirituous Cordials; as alſo to Bliſters and invigorating *Suppedanea*. And towards the Ἀκμή, Wine may be allowed. In Peſtilential Caſes, where the Puſtules of the Small-pox, Buboes, or Spots retreat into the Maſs again, they are neceſſary. In Difficulties of Breathing, in ſuch a State, (*viz.* weak Pulſe, and imperceptible Heat,) they are indicated; as alſo in Epilepſies and a ſuppreſs'd Salivation, in ſuch a Condition: Nay, Bliſters are often required in the Beginning, where the Pulſe is weak, or the Head loaden with a Quantity of ſerous Blood, ſo as to bring on *Coma's* with a ſlow Fever; or by way of Prevention of comatous *Deliria*, in epidemical, ſlow Fevers, that terminate thus; but very often at the State, to prevent *Coma's* or comatous *Deliria*.

4. Where there are any Remiſſions or Intermiſſions, the *Bark of Peru* is the moſt remarkable Remedy; but in any Eruptive Fevers, 'tis uſeleſs or dangerous before a total Eruption. As to other Febrifuges, 'tis remark'd that they are to be given before the Fits; *and if they be of a volatile Nature*, then they muſt be given only an Hour befor the Fit;

if of a fix'd Species, you muſt give 'em two or three Hours before it; becauſe they produce their Effects ſlowly.

5. *At the ſtate of the* Fever (that is, after the Augment is over, and the Fervor abated;) what is critical muſt be promoted, ſo long as it continues to be ſo; for, *Quicquid in principio bonum extiterit, perſeverantiâ fit vitioſum*, ſays *Cheſneau*; and *Sydenham*, in other Words, copies him in ſaying, *Sudores utiles, dum urina cocta eſt, diutius quam cocta eſt, non ſunt promovendi.* (However, you muſt underſtand the Words *diutius quam cocta eſt*, in ſuch a Senſe as I have explain'd above in the *Criſes.*) A Salivation in any Fever, is always unexceptionably critical (without waiting for a concocted Urine, tho' it precedes) unleſs it be too long continued; it is promoted by Liquors given plentifully, and warm'd. Here then the warmer Alexipharmacks are indicated, and a gentle Promotion of what is critical by proper Specificks. So that Sudorificks are uſually ventur'd on at the State of the Fever, when Nature inclines that way, and the Urine is well concocted: But in the Beginning of ordinary Fevers, eſpecially the Inflammatory ones, they inflame more, and occaſion Pleuriſies, Head-achs, Coma's, Spots, bloody Urine, and whatever Symptoms depend on a Commotion of the Maſs. 'Tis true, in a neighbouring Nation, in ordinary Fevers, they make freer with them, than we dare do; and the Pupils of ſuch, in their Practices here, often commit horrid Blunders; not conſidering that they agree with their *ſerous* Bloods, but not with our *ſizy*: Yet, in ſome Malignant or Peſtilential Caſes, I have ſeen them anſwer from the very Commencement of a Fever; but the Urine, at the firſt Seizure, was concocted, and they naturally dropt into 'em; and the Suppreſſion of 'em brought on Symptoms of fatal Conſequence

quence to ſome, which were plain Indications for them: Alſo in the *Peſtis* itſelf, no other Method, without Scandal, is allowed to be followed; tho' Authors differ in the Manner and Continuance of them: But our Country-man *Sydenham*, in copying ſome Antients, acts moſt prudently in this Affair, in continuing them for Four and twenty Hours, without Interruption, or Change of the Sheets or Linen; for, *Tolli quod putridum, non alterari poſtulat*, is meant of ſuch a State of Fever.

Hippocrates's Remark is, That ὀργᾶνλες *eodem die exturbandi, Aphor.* 24. *ſect.* 1. and *Aphor.* 10. *ſect.* 4. We muſt then enquire what this Turgeſcence implies; and we ſhall then be enabled to judge when to evacuate. In general, Humours are ſaid ὀργᾶν (*turgere*) when they *range in the Maſs*; and tho' they fix no-where, yet they *create an uneaſineſs*, and ſeem to invite us to expel them. If we add they *turgeſce*, when they are in great *Plenty*; when they are *concocted*; and when they are *Peſtilential*; we may, in all theſe Caſes, conclude, that Evacuation is ſomewhere requir'd. Evacuations then muſt be made, when indicated; the Neglect of which, in due Seaſon, is juſtly imputed to be the Fault of ſuch who are firſt call'd.

6. After the State, that is, after there is a plain Abatement of the Symptoms, and the Urine ſeparates; you may uſe proper Evacuations, whether Purgatives or Bleeding. Care muſt be taken, that what is critically expell'd, be not driven back again into the Maſs. Now it is that critical Eruptions are to be encouraged. The Times in which *Criſes* are perform'd are very different in the ſeveral Species of Fevers; in which the Eruptive ſort are, by much, the moſt active.

7. If a *Nauſea*, or a Vomiting, or Loads at the Stomach be complained of, an *Emetick* is to be given; or if they are ſuch Perſons as cannot bear a Vomit, then a gentle *Lenient* ſupplies, which you may repeat at a little Diſtance, if requir'd by the Conitnuance of the Load: For thus the neſtling Humours, lodg'd in theſe Paſſages (which make way for *Diarrhœa's*) are thrown off. *Harris, in morb. infant. p.* 52 obſerves, That Dr. *Boiſe* of *Canterbury* took off *Coma's* in *Worm-Fevers*, by Mercurials.. I ſhall not ſay how much this might depend upon the *Saburra*, as the *Fomes* of this Fever, and conſequently required Evacuations, proper to exterminate it, that kill the Worms. And beſides, whoever takes away the Cauſe of any Diſorder, which is not fix'd, neceſſarily takes away the Symptom. *Glyſters* evacuate the *Fæces*, if too plentiful, as well as the *Saburra* of the *Colon*; and may (if Purgative) ſupply the Neglect of Lenients in weaker Conſtitutions.

Purgatives (by which I would, in Fevers, be underſtood to ſpeak of Lenients) are neceſſary, where there is a Turgency in the Humours. In a *Saburra* of the Inteſtines; before a Fever; in an *Aſtrictio alvi*; in a Comatous Phrenzy; after Signs of Concoction; and, according to F. *Piens, in Coctione qualicunq*; even in the Beginning and Augment; in the weakeſt Perſons, after Concoction, in malignant Caſes; and after the 7th or 9th Day in Child-bed-women.

8. In the *Peſtis*, Diaphoreticks are only to be confided in; and in Peſtilential Caſes, and even in Malignant Fevers, they are the only Relief. Whereas in the *Peſtis*, Nature is oppreſs'd and ſinking: They are indeed to be ſpecificated, ſo as that in the *Ardent Species*, fix'd Antimonials, and even Salſo-

Salſo-Acids are conducive; but in the *Hectical ſort*, the more volatile ones are to be uſed.

9. *Hence, in all Fevers whatever, the Heat and Pulſe muſt neither exceed the natural, nor languiſh below that Standard; whether before the* Criſis, *in the Time of it, or after it is over.* So that the Degrees of the Strengths of the Pulſe, and the Warmth, indicate the various Alteratives; which, *in great Heats and ſtrong Pulſes*, require the Coolers; (in which ſome Caution is neceſſary, ſo as Acids are dangerous in Inflammatory Caſes, becauſe they coagulate:) *But in the contrary State*, the warmer Medicines.

10. Opiates are naturally required in all violent Evacuations; in any notable Commotion of the Spirits; in any violent Pains; in Epilepſies; in Phrenzies, where the Spirits, before any critical Eruption, are too rampant; in Anxietudes in malignant Caſes: But if it be poſſible, 'tis adviſeable to forbear 'em before a *Criſis*.

11. *Revulſions* are made uſe of, to prevent ſome noble *Viſcus* being ſeiz'd: when the Brain is in Danger, (as will appear by the Signs of its Plenitude;) or the Lungs are threatned, (our Breath being ſome way affected;) and ſo of the reſt. As to the Revulſions, it is not the Buſineſs of this Paragraph to mention its Methods, nor the various Rectitudes obſervable in 'em.

12. In every Fever, the Quantity offending is to be evacuated: And alſo that Evacuation is diverſify'd by the Nature of the Humour offending. Hence the Particles offending in the *Puerperal Fever* are to be evacuated by Sweats, and the *Lochia*; as is the *Lacteal Fever*; as is the *Pleuritick Fever* in

Puerperals; the *Febris alba*, by the *Semen* or *Menſes*; ſo that if the *Head is moſt affected*, Hæmorrhages terminate Fevers; if the *Uterus*, the Menſes evacuate 'em ſafeſt; *if the Blood*, Sweats carry thoſe beſt off.

13. In *Agoniſtical Criſes*, we muſt neither promote nor curb Evacuations, but ſuffer 'em to go forward, according to Nature's Bent, which, whenever they become very troubleſome, they are no further term'd *Criſes*, but *Symptoms*, and are to be remedied by proper Methods.

14. Every Symptom is to be relieved by its proper *Indicata*, over-and-above what is remark'd in the above-nam'd Paragraphs of this Corollary: And as Fevers are ſo collective a Diſorder, to offer at ſumming up all the Symptoms producible by it, and their Remedies, would be to compile a whole Syſtem of the Medical Art: So I ſhall sketch out only proper Remedies for ſome Symptoms commonly occurring in each Species, to illuſtrate the Method, and leave the Reader to conſult, till a more proper Seaſon.

CHAP.

CHAP. VIII.

A SYLLABUS of the

PRESCRIPTIONS.

TO render this little Treatiſe as uſeful as I can, I have here ſubjoin'd ſuch Remedies as I have found proper in Fevers: And ſo many Variations, as that, at one View, moſt of what is uſeful, may be ready for Preſcription; which I have done to illuſtrate what I have advanc'd: I have ſuppos'd the Patient at the Age of Five and Twenty, and leave them to be adapted to each Age, as the Preſcriber ſhall judge proper.

In ARDENT FEVERS.

Injiciatur Enema ex lacte ſaccharato; tum extrahatur ſanguis quamprimum ad ℥x. *e brachio; repetatur, ſi requiratur.* ℞ *Aq. Borag. Bugloſs. a* ℥iv. *meliſſ.* ℥ij. *Lact. Alexit.* ℥j. *Cinnam. h.* ℥iij. *Sp. nitri d. q. ſ. ad acorem gratum, ſyr. violar.* ℥j. *m. f. Julapium cardiacum rubrum, cujus capiat Cochl.* vj. *in languoribus. Vel,*

℞ *Aq. Portulac.* ℥vj. *Paralyſ.* ℥ij. *Syr. Diamoron* ℥ß. *Sal. Prunell.* ℈j. *m. f. Julapium, ſumendum pro lubitu.*

℞ *Aq. frigid. Saxon.* ℥x. *Papav. Rhæad.* ℥iij. *Syr. Limon.* ℥ß. *m. f. Julap. e quo capiat Cochl. aliquot in languoribus.*

℞ *Conſ. Borag. Bugloſs ā. ʒj. violar. ʒjß. Tartar. vitriolat. ℈ij. Syr. Limon. qs. m. f. Electuarium cujus ſumat Magnitudinem Caſtaneæ ter de die ſuperbibendo cochl. aliquot Julapij cujuſvis. Vel,*

℞ *Conſerv. Lujul. ʒiij. Cynosbat. ʒß. Limon. tabulat. ʒj. Syr. e Rub. Idæo qs. m. f. Electuarium, ſumat ut prius. Vel,*

℞ *Conditur. Berber. ʒij. Miv. Cydon, uvar. Corinthiac. ā ʒj. Syr. Diamor. qs. m. f. Electuarium, Capiat. ut prius.*

℞ *Tinctur. Roſar.* ℔ij. *bibat ex eâ ad libitum.*

℞ *Decoct. Coccin.* ℔ij. *ſit pro potu communi.*

℞ *Amygd. d. excortic. no.* x. 4. *ſem. frigid. maj. ā* ʒj. *Contus. In mortario eis ſenſim affund. Aq. Hord.* ℔ij. *Colatur. add. ſal. prunell.* ʒß. *Sacch. perlat. qs. m. f. Emulſio pro Lubitu bibenda.*

Bibant Cerevisiam tenuem; ſerum Canarinum tenuiſſimum; Claretum Coberi; vel Serum e Pomis; Tea ex Limon.; Hydrogala.

Diæta ſit Juſculum avenaceum, Gelatinæ, Panatella, Flos Lactis orizatus, Limonatus vel Imperialis; Poma toſta; &c.

Under this Head Symptoms are to be treated differently. So

Lassitude.

Under this Head, it is called *Laſſitudo Phlegmonodes.*

Extrahatur Sanguis ad ʒxij. *e Brachio, & reiteretur pro re natâ; In aliis procedatur ut ſupra.*

A Vertigo.

A Vertigo.

Extrahatur Sanguis e Brachio ad ʒxij.; *repetatur, si opus sit. Quoad Cætera, procedatur ut supra, quia Symptoma est, tantummodo, lato sensu.*

Head-ach.

℞ *Ol. Rosar. Acet. ejusd.* ā *qs. Sacch. Saturn.* ʒj. *m. f. Epithema fronti admovendum.*

℞ *Sem. papav. alb.* ʒß. *Flor. Rosar. (a Destillatione resid.) mj. acet. Sambuc. (cum vitello uno ovi agitat.) qs. m. super Ignem in Epithema fronti admovendum & sæpius renovandum.*

Prius præmissis venæ Sectione, Cholagogo miti, vel Enemate pro Exigentiâ, &c. ut in Genere.

Deliria (Phrenzies.)

Extrahatur Sanguis e Brachio & pedibus pro virium ratione (prius Enema ex Lacte Saccharato injiciatur;) dein ℞ *Columb. per medium sect. soleis admoveantur;* vel ℞ *Emp. de Mucilagin. qs. opij, ol. Lilior. malaxat.* ƎSS. *m. f. Emplastr. solearia.*

Bibant Copiose Sal prunell. in Aq. Hordei vel Ptisanâ; tandem ℞ *Aq. Papav. Rhæad.* ʒij. *Lactuc. Paralys.* ā ʒiv. *Sal. Nitri purif.* Əj. *Laud. opiat. gr.* iij. *Syr. papav. Rhæad.* ʒß. *m. Capiat cochleatim.*

Foveantur Hypochondria Decocto Althææ in Lacte; loco Columbar. dissectar. Soleis admoveatur Theriac. Androm.

Convulsions.

In order to lay the hurry of the Spirits, and recruit them, as being harrass'd.

Vena

Vena *Secetur, ad* ℥x. *extrahatur Sanguis*; Cucurbitulæ *variis partibus admoveantur.*

Enemata *ex Decoct. Emollient. injiciantur cum oleo Succini*;

℞ *Aq. Rut. Puleg. ā* ℥ij. *Lactis alex.* ℥iv. *Pæon. C.* ℥j. *Bez. min. gr.* xv. *Laud. liq.* ʒß. *Syr. de mecon.* ʒß. *Sal. vol. oleos. gut.* vj. *m. f. Julapium Cochleatim sumendum.*

Coma's, Lethargies.

Extrahatur (& repetatur in aliis venis) Sanguinis Quantitas ad ℥x. *e Jugulari; Cucurbitulæ ad Scapulas applicentur.*

℞ *Aq. Rut.* ℥iv. *Sp. vitriol. gut.* x. *m. f. Hauſtus ſæpius repetatur.* Etmuller. p. 427.

Acetum naribus admoveatur, in Comate febrili, Etmullerus p. 428.

Abſtineant a Lecto per horas aliquot Diei.

Watchings.

Extractione Sanguinis præmiſſâ ad ℥x. *vel* xx; *Enematibus dietim injectis (ex Decocto communi; Pedes Decocto (e fol. Hyoſcyam. ſem. papav. alb. in Lacte vaccino) laventur.*

Emulſiones copiosè bibant cum ſemine papav. alb. factas.

Epithema fronti admoveatur ex vitell. ovor. no. ij. *ol. Roſar* ʒß. *acet. Roſar.* ℥ij. *placent. Roſac. qs. f. Frontale.*

Vomiting.

Præmiſſâ ſectione venæ ad ℥x. *Eluatur ventriculus Aquâ Pulli vel Hordei; Saburrâ eliminatâ,* ℞ *ſucc. Limon.* ℥ß. *Sal. abſinth.* ℈j. *m. Capiat ſæpius; vel* ℞ *Aq. menth.* ℥ij. *Succ. Cydon.* ℥j. *Sp. vitriol. gut.* vj. *ſyr. de mecon.* ℥ß. *m. Capiat cochleatim. Bibat ſæpius Tea e Succo Limonum fact.*

Ischury.

Eſt Febris Καυσώδεως *quoddam Symptoma inquit* Ballonius Annot. 1. in C. 37. L. 2. *& Diuretica non probat; quoad Emetica quæ laudat, non probo, at V. ſang. ſuſtuli.--Derivandum--potius per alvum.*

Diarrhœa, Dysentery.

Tundatur vena ad. ℥x. *& ſi opus ſit, iterum celebretur. Bibant Tinctur. Roſar. vel Decoct. album. Rheo ad* ʒj *in Aq. Cichor.* ℥iv. *infuſ. & Syr.* 2 *Roſ. ſolutiv. Edulcorat. Saburra elutrietur; & pro re natâ Potio reiteretur.*

℞ *Pulv. G. Arab.* ʒjß. *oc. Cancror.* ʒß. *Laud. Lond. gr.* iv. *Syr. de mecon. qs. m. f. Bol. no.* ij. *Capt.* j *horâ quâque 6tâ. Seu,*

℞ *Rad. Cayennenſ.* ʒj. *Divid. in Chart. no.* ij. *pro vicibus* ij. *Capt. in Aq. Cinnam. h.* ℥ij. *ad Diſtantiam 6 horarum. Non fallit.*

Colicks, Iliack Passion.

Præmiſſâ Sectione venæ; Injiciatur Enema (ex flor. Sambuc. Chamomill. melilot.) cum Lacte paratum.

dein

dein ℞ *Fol. Senn. alex.* ʒjß. *Sal. Tartar. gr.* vj. *Infundantur in aq. font. Colatur.* ʒiv. *add. Mann. Calabrin.* ʒß. *Syr. e Roſ. Solutiv.* ʒj. *Crem. Tartar.* ʒij. *m. f. Potio tepidè haurienda; operatione peractâ,* ℞ *Aq. Menth. flor. Chamom. ā.* ʒij. *Syr. de mecon.* ʒvj. *Sal prunell.* ϑj. *m. f. Hauſtus, ad dolorem pacandum.*

Nausea, Anorexia.

Præmiſſis venæ Sectione, & Emetico leni ex Pulv. rad. Hypocacuan. ʒß. *in Aq. Cardui; dein* ℞ *Conſ. roſar. vitriolat. q. ſ. Capt. parum ſubinde In nauſeâ.*

℞ *Sp. vitriol. d.* ʒij. *Capt. gut.* vj. *in Liquore aliquo.*

℞ *Sp. Sal. armon. acid.* ʒj. *Capt. gut.* x. *In Aq. Hord.*

Thirst.

Vino Lymphato affatim ſumpto; Clareto Coberi, &c. *ut prius.*

Dyspnœa.

V. Sang. Sp. Sulphur. gut. x. *In quocunque vehiculo aqueo.*

Pains (Rheumatick.)

V. Sang. (repetitâ modo pulſus fortis, Ardor & Dolores urgeant.) ad ʒxij. vel *Cucurbitulis; Enematibus Emollientibus (ex Decocto Communi, ex Lacte Saccharato,* &c.) *Emulſionibus uti prius, Epithematibus (ſi requirantur) ex Pane cum Lacte Cocto & Croco, ſeu ex Lenticulâ paluſtri Flor. Chamom. Lacte & farinâ Hordei ſimul coctis,*

coctis & admotis seu Aq. Plantag. Rosar. Aceto Rosar. &c. Diluantur Salia Aqueis, (Hordeaceis, avenaceis, &c.) Tandem a Statu, Diaphoretica ut Turgentes Humores expellantur. Abstineant a Lecto per aliquot diei horas uti Sydenham (a Nic. Pisone L. 3. C. 3. de Auginâ) *consulit.*

Worm-Fevers.

Præmissis venæ Sectione & Enemate. ℞ *Corallin. pulv.* ʒ ß. *Conf. Lujul.* ʒ j. *Sp. Vitriol. gut.* iv. *m. f. Bolus Capiat; tum horâ unâ vel duabus elapsis da Infusum Sennæ* ʒ iij. *cum Syr. e Flor. Persicor.* ʒ i ß. *M. admoveatur Emp. vermifug. Batean. Regioni ventriculi.*

Puerperal Fevers.

V. Secetur in Brachio, tum in Talo; tum ℞ *Aq. ulmar. Puleg.* ā ʒ iv. *Aq. Hirund. cum Castor.* ʒ ij. *Gelatin. C. C. acid.* ʒ ß. *Acet. Theriacal* ʒ iij. *m. f. Diaphoreticum.* Etmullerus.

Inflammations, (Pleurisies, Peripneumonies, &c.)

Venæ Sectione repetitâ; tum Emulsionibus suprà memoratis; Sale prunellæ ad ϑß. *in singulis Haustibus; Cave tamen ab acidis, ne Coagulum inde augeatur, & sanguinis Circuitui in Arteriis Evanescentibus obex ponatur; Diæta sit tenuissima. Hinc in* Colo Inflammato, *Extrahatur sanguis ad* ʒ xij. *e. Brachio; & reiteretur, si ab Inflammatione indicetur; Item Hirudines Ano admoveantur; Item injiciatur Enema (ex Brodio vervec.* ℔j. *vitell. ov. no.* ij. *Sacch. Crystal.* ʒ j. *m.) Potus sit Decoct. Hord. cum Syr. Dialth.* ℞ *Flor. Chamom. Sambuc. Melilot.* ā. *p.* iij. *Farin. Lupin.* ʒ ij. *Caricar. ping. no.*

no. vj. *Incis. & Contus. Coq. In Lacte ad Consistentiam Cataplasmatis, admoveatur.*

Unde in omni Inflammatione, priusquam radices egerit, seca venam sæpius, refrigera sanguinem, Revelle; discuti & emolli. Etiam in Puerperis, Venæ Sectio celebretur, parcâ tamen manu.

Symtomatical Sweats.

V. S. præmissâ, & pro sudorum modulo; ℞ *Aq. Portulac.* ʒiv. *Lactuc.* ʒiij. *Sal. prunell.* ℈j. *Syr. Limon.* ʒß. *Tinct. antiphthisic. Garmann gut.* xij. *m.*; *Ad alium Lecti Locum se moveant; A Lecto eximantur; Stragula amoveantur aliqua; Fenestræ aperiantur; Sudor non abstergendus est.*

Hæmorrhages.

V. S. præmissâ, & repetitâ pro Exigentiâ; Bibant Tincturam Rosarum. ℞ *Alumin. crud.* ʒj. G. *Lacc. pictorum* ʒiß. *m. f. pulvis insufflandus; seu Stypticum Tasburgense.*

Fluxes (of any Sort.)

Sectio Venæ, vel Cucurbitulæ præmittantur. Ratione Febris Speciei, *refrigerantia sæpius memorata exhibeantur. Et demum* Ratione Meatus aperti, *Cohibentia propria administrentur; & pro Medici Lubitu commisceantur.*

In the Hectical Species.

Præmissâ Catharsi, *ex Fol. Senn. cum Syrup. Rosaceo solvente & Cremore Tartari; Vel Emetico; Vel alio quovis Evacuatorio Indicato.*

℞ *Be-*

℞ *Bezoar. min.* ℈ j. *detur. ſæpius in juſculo.*

℞ *Bezoard. min.* ℈ ij. *Camphor. gr.* xij. *cum. Aq. Card. bened.*

℞ *Bezoard. min.* ℈ j. *Sal. prunell.* ʒ ß. *Camphor. gr.* vj. *m.*

℞ *Marg. ppt.* ʒ j. *oc. Cancror.* ʒ ß. *Sacch. Cryſtall. ad pondus utriuſq; m.f. pulv. divid. in Chartul. no.* iv. *Capiat.* j. *horâ quâq;* 3*tiâ,* 4*tâ,* 5*tâ. In Julapii cujuſvis Cochl.* vj.

℞ *Pulv. e Chel. C.* ʒ j. *Sacch. alb.* ʒ ß. *m.f. Pulvis dividendus in Chart. no.* ij.

℞ *Pulv. e Chel. C.* ʒ j. *Theriac. androm.* ʒ ij. *Conf. Alcherm. incomplet.* ℈ j. *Syr. e Cort. aurant. q. ſ. m. f. Bol. no.* ij.

℞ *Camphor. gr.* iv. *Pulv. e Conf. de Hyacynth.* ℈ j. *Diaſcord. Fracaſtor. S. melle* ʒ ß. *Syr. Caryoph. q. ſ. m. f. Bol.* ℞ *Pulv. Scrp. Virg.* ℈ j. *Ther. And.* ʒ j. *m. f. Bol.*

℞ *Sal. vol. C. C. gr.* vj. *Conſ. flor. Anth.* ʒ ß. *Conf. Alcherm. ſ. m.* ℈ j. *Syr. Croc. q. ſ. m. f. Bol.*

℞ *Pul. Goan. Lap. Contrayerv. ā* ℈ j. *Theriac. And.* ℈ j. *Syr. Caryoph. m. f. Bol.*

℞ *Aq. Lact. Alex* ʒ iv. *Meliſſ.* ʒ iij. *Menth* ʒ j. *Epidem* ʒ j. *Marg. ppt.* ʒ j. *Sacch. alb. q. ſ. m. f. Julap. e quo Capiat. Cochl.* vj. *in Languoribus (Phialâ priùs agitatâ.)*

℞ *Aq.*

℞ *Aq. Scord.* ʒiij. *Naph.* ʒ ij. *Cinnam. h.* ʒiß. *Mirab.* ʒß. *Marg. ppt.* ∋ij. *Sacch. Cryſtall. q. ſ. m. f. Julap.*

℞ *Aq. flor. Tiliæ* ʒiv. *Protheriacal.* ʒj. *Ceraſ. n.* ʒiß. *Epidem.* ʒj. *Sacch. alb. q. ſ. m.*

℞ *Aq. Borrag.* ʒj. *Bugloſs.* ʒij. *Epid.* ʒß. *Sp. C. C.* ∋j. *Syr. Caryoph.* ʒ iij. *m. f. Hauſtus.*

℞ *Sp. Fuligin.* ʒ ij. *In vehiculo detur.*

℞ *Pulv. Cantharid. (demptis alis & pedibus.)* ∋j. *Ferment. acerrim.* ʒj. *m. f. Emp. Veſicatorium largum pro Nuchâ. Vel,*

Admoveantur Emp. veſicator. Nuchæ, & Carpis vel etiam Brachiis Internis vel Suris, &c.

Admoveantur Cataplaſm Solear. Batean. Soleis.

Si animus tibi ſit ulcuſcula a Veſicatorio excitata aperta ſervare ; *admoveatur Emp. Veſicatorium perpetuum*, quod ſic communiter faciendum curavi. *Infunde Cantharid. pulv.* ∋j. *(In petiâ ligat.) In Aq. Ballient.* ʒx. *tum Injiciatur Baſilic. ad* ʒij. *Mitte omnia ſuper Ignem Lentiſſimum, ut omnis Aqua ſenſim Evaporetur ; Sicq; Sal. Cantharidum Unguentum virtute ſuâ Imprægnabit, quod debilius vel fortius (additione vel ſubſtractione unguenti) fieri poteſt ; Pro uſu ſervetur ; hoc enim, Emp. Meliloto ſuperinductum, ſerum in Quantitate ſat largâ exprimet, nec fraus facile detegitur. In filiolâ meâ Dyſuriam ſat moleſtam excitabat.*

A Lassitude: *In this Case 'tis* Lassitudo Ulcerosa.

Præmissâ Catharsi ex Sennæ foliis; fac ut se dispo-nant ad Madorem, Infuso e Foliis Tea (Bohe) *Saccharato.*

A Vertigo.

Primis viis purgatis; Capiant Misturam (ex Sp. Lavend. ʒ ß. *Tinct. Castor.* ℈ j. *Sal. vol. oleos* ʒ ij. *in vehiculo appropriato.) ad gut.* x.

Head-ach.

Proritetur Alvus Aquâ Salitâ; Applicetur vesicato-rium Nuchæ. ℞ *Sp. C. C.* ʒ j. *Aq. Hysteric.* ʒ iij. *m. f. Epithema. Vel Sp. Rnæ. Hung.* ℞ *Pulv. de Gutt.* ʒ j. *cum Infuso Thea.*

Deliria.

Quia in Statu vel paulo ante eum Evenire solent De-liria, ideo præsupponuntur Evacuationes debitè præmissas fore: Nil ergo agendum restat, nisi ut admoveantur Emplastra vesicatoria *pauciora vel plura pro Spirituum vacillationis & νευρόσεως modulo: Porro* Emplastra vel Cataplasmata Solea-ria, *(ex Emplast. Cephalic. cum Euphorb. & ol. Mac. Vel Sem. Sinap. pulv. Porro Contus; seu Allio cum Oxymel. Scillit. seu Halece salito) vel similia admovenda sunt. Et*

℞ *Cinnab. Antim.* ʒ j. *Bezoard. Miner.* ʒ ß. *Camph. gr.* iv. *Laud. opiat. g.* ij. *Syr. Croc. q. s. m. f. Bol. no.* ij. *Capiat.* j. *horâ quaq; 7ma, vel sæpius si re-quiratur, vel prosit. Vel,*

℞ *Aq. Paralyſ.* ℥iij. *Epilept. Lang.* ℥ß. *Sp. C. C. gut.* xx. *Laud. liq. gut.* xxx. *Syr. de Mecon.* ℥iv. *m. pro duabus Doſibus.*

℞ *Pulv. Rad. ſerpent. Virg.* ℥ß. (℈ij.) *Sacch. Saturn. gr.* x. *Theriac. Androm.* ʒiß. *Syr. de Mecon. q. ſ. m. f. Bol. no.* ij. *Capiat* i. *horâ quaq; 5ta, 6ta, &c. Superbibendo Cochl.* iij. *Julap. ſeq.*

℞ *Aq. Meliſſ. Flor. Tiliæ ā.* ℥iv. *Hyſteric.* ℥ ij. *Sp. C. C.* ℥ß. *Syr. Papav. Rhæad.* ℥ j. *m. f. Julap.*

Convulsions.

Præmiſſis Catharſi, Enematibus, vel Emeticis: Admoveantur Emp. veſicatorium unum vel plura: hic tamen monendi ſunt Medici ut non nimium Evacuent: at Analeptica, Cephalica, & opiata ſunt Iſta, ſuper quæ Cardo Medelæ vertit. Hinc,

℞ *Cinnab. Antim. gr.* vj. *Sal. vol. C. C. gr.* j. *Cran. human. pulv.* ℥ ß. *Laud. opiat. g.* j. *Syr. Caryoph. q. ſ. m. f. Bolus, quâq; horâ 4ta, 5ta, vel 6ta, repetendus cum Cochl.* vj. *Julap. ſeq.*

℞ *Aq. Flor. Tiliæ* ℥iv. *Puleg. Rut. Ceraſ. n. ā.* ℥iij. *Tinct. Caſtor.* ℈j. *(in petiâ ligat. Et ſuſpenſ.) gr.* vj. *Sacch. alb. q. ſ. m. f. Julap.*

℞ *Theriac. Androm. (cum ol. Succin. malaxat.) q. ſ. m. f. Cataplaſmata Solearia.*

Si Subſultus Tendinum *ægros divexent, ſumantur gr.* iij. *vel* iiij. *Ent. Vener. in Conſ. Flor. Anth. in vehiculo ſpecifico ſæpius in die.*

Coma's,

Coma's, Lethargies, &c.

Admoveantur Emplast. Vesicator. Nuchæ & Brachiis internis.

℞ *Piper. Euphorb. Calam. aromat. Pyreth.* ā ʒj. *Ceræ* ʒj. *ol. Succin. q. s. m. f. Linimentum pro Cervice ungendâ.*

Bibant Copiosè Tea ex Satureiâ factum.

Lotiones pedum fiant cum Decocto vel potius Infuso ex Herb. & Rad. aromaticis (viz. Angelic. Calam. arom. majoran. Lavend. &c.)

Suffiantur Nares Sulphuris fumo, seu Sp. Sal. Armon. cum Calce fact. Capt. gut. x. *vel* xv. *Sp. C. C. in vehiculo appropriato.*

Siq; Symptomata hæc sint periodica, misceatur Cortex peruv. cum Tea, ex fol. Bohea.

Watchings.

Hic Obiter moneo, ne medici Vigiliis Criticis seu ab Inquietudine Criticâ suscitatis auxilium præbere prætexant.

Si Spiritus Erigere Conemur, Vigilias abigemus, quæ hoc in Casu planè vacillantes vires arguunt: & uti Senum Vigiliæ Ambratis & Cardiacis tolluntur, ita ubi adsit Spirituum Debilitas & Paucitas, & inde vigiliæ, iisdem plane Remediis, eos supplere debemus, quibus sic restitutis, Symptomata exinde generata necessario truncantur. Sit igitur Diæta Analeptica ex Pullis, In Gelatinam coctis, ex Julapio vitæ & Similibus, & Diætâ pauxillum vinosâ.

Colicks, Iliack Passion.

Elutrientur Humores Sennâ in Aquis Cordialibus Infusâ (modo necessariò Catharticum requiratur;) quod manifestant Plenitudo quædam in Hypochondriis & Tensio a Flatibus; dein Rob. e. Bacc. Junip. & Laur. cum Antimon. Diaphoret. cum & Laudano rem perficient; Item quandoq; sumant Sp. Junip. ʒj. Aq. Menth. ʒij. vitell. ovi. no. j. Sacch. q. s. m. f. Haustus Carminativus, seu Eleo-Sacchara Cinnamomi, Carvi & Similia. Si sedes ipsius sit in partibus Inferioribus, Enemata cum successu injiciuntur, uti sæpius expertus sum.

Thirst.

Hoc in Statu quam optimè potu ex Thea, Salviâ in Aquâ Infusâ, sero Canarino, Decocto Santali cum Cort. aurantiorum Saccharato; Os mucagine albâ obductum Eluatur Acrimoniam Temperantibus, & Abstergentibus, (viz.)

Horrors, Rigors.

Si graves & periculum minentur, vino Calid. auferantur; & Horrorem in Puerperâ per horæ Dimidium & quod excurrit durantem, Sp. C. C. ad ʒj. *& amplius, partitis vicibus non solum sustuli, at porro sudores copiosos per horas sex fluentes placidè, & Symptomata Levantes excitavi, & Febrem ex toto abegi. Leves si sint, sunt Malignitatis Indices, nil tamen Remedii postulant, præterquam quæ Febris Specie exiguntur.*

A Dyspnæa.

Epispasticis, Alexipharmacis generosioribus ut in Genere.

Ver-

Verminous Fevers.

℞ *Pulv. Ent. vener.* ʒß. *Conf. Absinth. rom.* ʒij. *Syr. e Chicor. cum Rheo. q. s. m. f. Bol. No.* iv. *capiat* i. *horâ quâq; octavâ cum Cochl.* vj. *Vini Hermetici,* (viz. *Vini, in quo Mercurius vivus infunditur.*)

℞ *Æthiop. Mineral.* ʒj. *Sacch. alb.* ʒij. *m. f. Pulv. divid. in Chart. No.* iij. *capiat* j. *quâq; horâ octavâ in Cochl.* iij. *Vin. rubri.*

℞ *Præcipitat. Vener. gr.* v. Etmuller. p. 626.

℞ *Pulv. Aurei.* ʒß.

Et Lucas Tozzi Medic. Practic. Part. 2. ait, *Omnis Timor abest, si des vermibus inimica, quia Enectis vermibus, desinit Febris,* &c.

Fel Bubulum cum Aloë admoveatur in formâ unguenti umbilico, super vesicam extendatur.

Puerperal Fevers.

Etmullerus *sic præscribit:* ℞ *Antimon. Diaphor. Cinnab. Antim. ā* ℈j. *Sal. vol. Sang. human.* ℈ß. *Sal. Volat. Succin. gr.* vj. *Myrrh. gr.* iv. *m. f. Pulv. No.* ij. *Capiat in aq. ulmariæ cum Syrupi pauxillo.*

℞ *Aq. Puleg. Rut. a.* ʒiijß. *Epilept. Lang.* ʒj. *Castor.* (*in nodulo suspens.*) ℈ß. *Tinct. Croc.* ʒß. *Sacch. Crystall. alb. q. s. m. f. Julap. ad libitum pitissandum. Etiam omnia, Febris speciei, remedia contrarientur, uti suprà sat copiose indigitavimus.*

Symptomatical Sweats.

Quæcunq; Spiritus labaſcentes exhilarant, eoſq; vacillantes reſarciunt, ſudores iſtos reprimunt, & Criſin promovent : Quia ſudores hi ex ſymptomaticis, proficui & utiles evadunt ; unde conſule præſcripta præmemorata.

Hæmorrhages.

Hoc in ſtatu quoties vidimus homunculos miſerrimé εἰς ἄδου missos præpoſtero Lancettæ *uſu? Εὐανλίωσις ſerio conſideranda, nam ſi ſanguinem cardiacorum generoſiorum uſu nimium evehamus, ejuſq; compagem ſolutam nimis reddamus, vehementius erumpet ; ſi incraſſantia & ſtyptica exhibeantur, magis dietim maſſa coagulabitur, & inepta fiet ſpiritus generare, particulaſq; noxias e ſinu ſuo expellere : Remedia ergo commiſcenda ſunt.*

℞ *Pulv. e Chel. Canc. C.* ʒj. *Vitriol. mart. ad albedin. Calcinat. gr.* vj. *Morg. ppt.* ℈j. *G. Arab. Pulv.* ℈ß. *Theriac. Androm.* ʒjß. *Syr. Myrtin. q. ſ. m. Bol. N°.* iv. *Capt.* j. *horâ quaq; quartâ ſuperbibendo Cochl. aliquot Julap. ſeq.*

℞ *Aq. Plantag. Rut. a* ʒiij. *Cinnam. h.* ʒj *Epidem.* ʒß. *Acet. deſtillat.* ʒj. *Syr. Caryoph.* ʒß. *Diaſcord. Fracaſtor.* ʒj. *m. f. Julap.*

Turundæ ex cretâ naſo intrudantur, vel Pulv. Colcothar. in Nares (ſi ferre queant) inſufflentur.

Fluxes.

Febris *Alexipharmaca & Cardiaca poſtulat*; & Fluxus *Styptica, Glutinantia ob meatum apertum requirunt*; *unde ſimul permiſta, effectus ſuos ſortientur.*

Talia ſunt Teſtacea, Margaritæ, oc. Cancror. Sal. Abſinth. Sp. C.C. Terra ſigillata, Terra Lemnia, Sang. Dracon. Vitriolum Martis, Croc. Mart. Aſtring. & ſimilia.

Inflammations.

Etmullerus, in Pleuritide a Lochiis ſuppreſſis hæc habet:

℞ *Aq. Puleg. Papav. Rhæd. a* ℥j. *Antim. Diaphoret.* ℈j. *Sal. vol. armon. gut.* vj *Sal. volat. Succin. gr.* iij. *Caſtor. gr.* ij. *Syr. Card. b.* ℥ß. *m.*

Aperientia *ergo mitia exhibeantur, ut coagulum præoccupetur, ſaltem ut genita obſtructio amoveatur; & motus inteſtinus ſedetur* Anodynis, Tenuibus; externé Diſcutientibus & Emollientibus, *Circulatio Humorum, ſanguini rurſum concilietur.*

Anomalia, ſeu Retroceſſio Puſtularum, Bubonum, &c.

℞ *Antim. Diaphor.* ℥ß. *Camph. gr.* vj. *Cinnab. antim.* ℈ß. *Syr. Croc. q. ſ. m. f. Bolus quâq; horâ quartâ reiterandus cum Julapio Perlato ad Cochl. aliquot. Veſicatoria admoveantur.*

Intermittent or Remittent Fevers.

Præmissis Evacuationibus propriis (à Specie Febris indicatis.)

℞ *Cort. Peruv. opt. subtiliter pulv.* ℥j. *Syr. Limon. q. s. m. f. Electuarium molle, cujus capiat quantitatem castaneæ quâq; horâ* 3tiâ *vel* 4tâ, *in Remissionibus, ad Febris Evanescentiam.*

℞ *Sal. Absinth.* ℥j. *Sp. Vitriol.* ℈j. *Aq. Absinth. C.* ℥ij. *Cerus. n.* ℥j. *Menth.* ℥ß. *Syr. Caryoph. q. s. m. f. Mistura pro duabus vicibus ante Paroxysmum exhibenda.* Crollius.

Novi Intermittentes Pulv. Flor. Chamomill. ad ℥ß. *ter de die fugatas.*

Novi item Febres Intermittentes, quasi carmine magico emplastro Cinnabarino, Ventriculo admoto, sublatas.

Species Febris in Paroxysmo considerandæ, & remediis prænominatis sublevanda est.

Pestis, Febris Pestilentialis.

Hac in Re Authoribus fides adhibenda est; & siquidem uno consensu Diaphoresi consulant. Hisce solis aggredienda est.

Quidam Emetica, alii V. Sectionem, alii glandes, quandoq; Cathartica mitia præmittunt; tum Diaphoretica exhibent. N. Hodges *dat Sp. C.C.* ℈ij. (℥j.) *ex Aq. Epidemic.; & sudoribus promanantibus Cerevisiam vult salviatam affatim dari; &* hoc in omni

omni ſudore critico notari velim, ut copioſe bibant quamprimum ſudores prorumpunt.

Sydenham, *præmiſſâ venæ Sectione*, ℞ *Theriac. Androm.* ʒß. *Elect. de ovo* ℈j. *Pulv. e Chel. Cancror. C. gr.* xij. *Coccinel. gr.* viij. *cum Succ. Kermes.*

℞ *Aq. Card. b. Scordii Comp. ā* ʒiij. *Aq. Theriacal. ſtillat.* ʒij. *Syr. Caryoph.* ʒj. *m. f. Julap. Capiat Bolum 6tâ quâq; horâ ſuperbibendo Julap. hujus Cochl.* vj.

Etmullerus, ℞ *Antim. Diaphoret. Flor. Sulph. ā* ʒß. *Sal. viperar.* ℈j. *Camph. gr.* xv. *Sacch. alb.* ʒj. *m. divid. in Chart. No.* iij.

Barbette, ℞ *Extract. Prophylact.* ʒiß. *Oc. Canc.* ℈j. *Aq. Prophylact.* ʒß. *Syr. Limon.* ʒj. *Acet. Sambucin.* ʒß. *m. f. Hauſtus.*

Isb. Diemerbroeck, ℞ *Aq. Theriacal.* ʒiij. *Succ. Citri* ʒß. *Sal. Card. b.* ʒß. *m. f. Hauſtus. Vel*, ℞ *Acet.* ʒij. (iij.) *Sal. Commun.* ʒj. *m. f. Hauſtus.*

Authores ergo Alexipharmaca pro Febris *modulo, mihi diverſificare & ſpecificare videntur.*

Bubo.

Quamprimum apparet, Chirurgi munus eſt attrahere, maturare, & aperire; tum detergere, incarnare, & cicatrizare; oleoſis, veſicantibuſq; Diachylo, Lancettâ, Ægyptiaco, Tereb. in Vitell. ov. ſolut.; Baſilico, & Unguento Diapompholigos. Interim Alexipharmaca, ne retroeat, exhibe.

Car-

Carbuncle.

Uratur; *Cruſta ſeparetur*; *ulcus curetur*; *Cauſtico potentiali circumillito* (*Butyro Antimonii*;) *Butyro recente*, *oleo lini*, *Ægyptiaco*, *Baſilico*, *Diapompholigos unguentis*. *Alexipharmaca ſpecifica toto tempore danda ſunt internè*.

As for Symptoms that come on after the Fever is quite vaniſh'd, it would be an endleſs Task to undertake to remedy them, and muſt refer my Reader to his Leiſure to conſult.

CHAP.

CHAP. IX.

The DIAGNOSTICKS of

FEVERS.

IT may be aſcribed to me as a Fault, that I have no where ſpoke of the Diagnoſticks of Fevers: I own I have not taken any further notice of them, than to demonſtrate that Fevers only are diſcriminated by their Degrees, and alſo to ſhew the two Remarks neceſſary to illuſtrate the Methods taken in them: And am therefore willing to sketch out the Signs more at large, for the Satisfaction of ſuch Readers as may ſtand in need of them.

FEVERS *in General,*

Are known by a Quick and Frequent Pulſe, Heat, Thirſt, and Inquietude: A Horror or Rigor begins it; there is joined a Want of Appetite, a Laſſitude, a Diſcolour'd Tongue, (White, call'd *Cancer albus*, Black, Brown, *&c.*) The Pulſe has above a Hundred Strokes in one firſt Minute.

An ACUTE FEVER,

Is known by a great Heat and Thirſt, a ſtrong, equal, and frequent Pulſe. It ends ſoon.

A Slow Fever.

The Symptoms are mild: The Heat gentle, or ſcarce perceptible: It ends ſlowly.

A Fever between an acute and ſlow one, is term'd a mixt or middle Fever.

An Ephemera.

Some evident Cauſe has preceded: The Urine is like that of Perſons in Health (with Contents, *viz.* and Citrin:) No Rigors precede it: It laſts 24 Hours. But it ſometimes laſts many Days without any Remiſſions. We may gueſs it to be an *Ephemera* if the Patients were not ſickly before, and it begins by ſome External Injury.

A Synochus Imputris.

It has a quick Pulſe and Heat, and the Urine is red, and has a copious Sediment: It laſts 7 Days without Remiſſion. *Sydenham's Febris varioloſa* 1667, which he ſays was rather an Inflammation of the Blood than any Humour to be expell'd, could be no other than this Imputrid *Synochus*.

A Putrid Synochus,

Has all the ſame Symptoms as an Imputrid one has, only one is more violent. It acquires various Names, according to the various Symptoms; 'tis call'd an *Aſſodes*, when a Pain of the Stomach accompanies, and a Tenſion of the *Hypocondres*; *Elodes*, when ſymptomatical Sweats infeſt us; *Epiala*, where the Perſons complaining of Cold are Hot;

Hot; *Syncopalis*, when the Decumbents are troubled with Faintineſs; *Rheumatica*, *Pleuritica*, *Anginoſa*, *Eryſepelatoſa*, *Dyſenterica*, &c. where 'tis accompany'd by theſe Symptoms. It has Remiſſions.

A Synochos, or *Continual Fever*,

Is a Malignant Fever: And though both Ardent Fevers and Hectical ones be Malignant, yet the latter is moſt commonly term'd ſo. The Heat, Pulſe, Thirſt, and all the Symptoms continue without Remſſions, till it terminate by a *Criſis*. The main Complaint is, a great Dejection and Proſtration of Strength, a weak Pulſe, and an unequal one; dangerous Symptoms of the Nerves ſoon after ſeizure, cold Sweats, dry Tongues, Black Thruſhes, Watchings, Deliria, pale Water or undigeſted; and many more bad Symptoms.

A Pestilential-Fever,

Is a Fever with Spots (whether Morbilloſe or Petechial) with a *Pulſus Myurus, formicans*, and *imperceptible Heat*. They often die, though the the Urine appear concocted (though in many there is the κεμμνώδης *Hypoſtaſis* and in others the ὄρον ἀναλελαμμένον according to *Willichius*, and I have obſerv'd them.)

The Pestis.

Beſides the Urine mentioned in the Peſtilential Fever, there is ſmall Heat, a formicant and intermitting Pulſe, not frequent; great Syncope's and Languors, Buboes, Carbuncles, black Spots, great Mortality, and very ſudden Death.

The

The Hungarian Fever, (or, *The* Camp-Fever.

A Fever with violent Head-achs and Cardialgia's, a Languor, Nauſeouſneſs, Hiccups, and Pain.

The Herpetical Fever.

From a Fever join'd with a *Herpes miliaris*.

The Miliary Fever. *The* Rash. Compound Miliary Fever.

The *Simple Miliary Fever* is known by a Fever, and watry Bliſters breaking out about the Eleventh Day after the Seizure. This is the *Cryſtalli* of the Ancients.

The *Raſh* or *Rubeolæ*, are a Fever with Cough and ſome ſhort Breathings, and then red Tubercles breaking out.

The *Compound Miliary Fever*, is when a Fever ſiezes, with veſicated Eruptions, join'd with the *Rubeolæ*, Small-pox, Meaſles, or *Petechiæ*.

Sir *D. Hamilton* adds to his *Tract*, that it is obſervable theſe Fevers are diſcoverable by a Languor, an Oppreſſion at the Breaſt, and Sighings; which indeed are Symptoms common to all Eruptive Fevers, and obſerv'd by all Authors. But this Gentleman having own'd, in his Preface, that he had not remember'd that *Etmuller* ever wrote of ſuch a Fever; though it be no Argument of his great Reading, 'tis a pregnant one of an honeſt *Simplicity*.

The

The Scorbutick Fever,

Is a Fever of what ſort ſoever, accompany'd with *Scorbutick* Eruptions.

The Crapular Fever.

This Fever is often accompany'd with Lurid Eruptions appearing the 7th or 9th Day.

Particular Fevers.

Ballonius L. de Virgin. & Mulier. Morb. C. 7. calls ſome Fevers *Cephalick*, *Hepatick*, *Stomachick*, *Lienoſe* ; and we often ſee *Pleuritick*, *Anginoſe*, and ſuch Fevers ſeizing on a Part. Theſe ſort of Fevers are never Intermitting, but Continual, ſays *Foreſtus*, if they be Symptomatical only.

A Fever *on the* Spirits, (Syncopal Fevers, Cordiaca Passio.)

They are only Malignant Fevers join'd with a Deſpondency.

The Lacteal Fever.

A Fever coming on the Third Day after Labour, from the Milk in the Blood: There is a Horror goes before it, if it turn into a *Synochus putrida*: The Breaſts ſwell: They are pain'd in their Backs and are Reſtleſs.

The

The PUERPERAL FEVER.

The common Symptoms of a Fever forerun: They have Pains in the *Abdomen*, *Hypogastria* and Loins. I suspect it to be Inflammatory mostly. 'Tis from the *Lochia* suppress'd.

A COLLIQUATIVE FEVER,

Is a Fever attended with Sweats, *Diarrhœa*'s, or some sort of Evacuations.

The WORM-FEVER,

Is a Fever rais'd by the *Seminium* of the Worms in the Intestines, and is judg'd to be one by Verminous Symptoms with a Fever.

The DIETETICK FEVER,

Is only a Fever occasion'd by playing the Gourmand.

A CATARRHAL FEVER.

From catching Cold, and a Cough with a Fever coming on after it; small Shiverings, with Heat and Cold succeeding each other; a Heaviness of the Head as in wet Weather, red Eyes, a Noise in the Ears, a Stoppage of the Nose, Hoarseness, and all other Symptoms of a Cold. It may be called a *Feverish Catarrh* or a *Lymphatick Fever*.

A FEBRIS

A Febris Lenta,

Is a Symptomatical Fever produc'd from ſome Ulcer in the Lungs, or elſewhere. This has three Degrees, according to the Antients.

A Hectick,

Is diſcoverable from a conſtant though gentle Heat (encreaſing after Meat) a frequent Pulſe, and an Atrophy. The *Heat* is moſtly perceptible in the Palms and Soles: The *Pulſe* is, according to *Floyer*, 100 out of the Fit, and 120 in the Fit: The *Atrophy* is from the Colliquation by Sweats, *Diarrhœa's*, &c.

A Hysterick Fever,

A Fever with Hyſterick Symptoms. The ſame of Hypochondriack ones.

An Erratick Fever,

Is a Fever that obſerves no certain Order nor manner of Invaſion: ſometimes it ſeizes with Rigors; ſometimes with Sweats, at other times with neither; ſometimes with Vomitings, at other times not: 'Tis call'd *Erratick*, becauſe it wanders in a Variety ſo as neither to keep any ſtated Time nor Order in its Acceſſions or Remiſſions. 'Tis never Continual, but Periodical, ſays *Foreſtus*.

The Small-Pox. *The Diſtinct Species.*

From a Pain in the Head and Back, Weeping Eyes, Vomitings, Coughs, and Fever; one or two breaks out in the *Apparatus*. The 3d Day the

Puſtules break out, red, and rough, and very ſmall; and daily grow bigger till the 4th and 5th Day, by riſing higher, and growing broader, and inflaming. The 6th Day they begin to ripen. The 9th Day they ſcab and fall off gradually.

The Cohærent Kind.

They run together in two or three Places in the Face. They appear the 3d Day: And fall off the 11th or 14th Day. They Salivate.

The Flux Kind.

Their Numbers are ſo great, that they riſe very little in the Face. The 8th Day they ripen, and are firſt White, then Yellowiſh, and laſtly Black: The Fever is continual, through all the Stages of them. They fall off the 17th or 20th. The 3d Day they appear: The 11th, the Salivation leſſens till the 13th, when it ſtops, and the Face falls.

The Measles *and* Scarlet Fevers.

They differ as the Diſtinct and Flux-Pox.

Over and above the common Signs of Fevers, they breath ſhort, have an Oppreſſion of the Hypochondres, and Cough, and Sneeze. On the 4th Day, or 5th, a Redneſs ſeizes the Scarff-skin, which is of no certain Figure. The 6th Day they grow rough. The 8th they ſcale, and then vaniſh.

In the Scarlet.

They appear later: The Skin is as if it were dyed with Claret; they Scale in great Fleaks; and the Fever is often Continual.

INTERMITTING FEVERS,

Is when every Day, or other Day, or every fourth Day, there is an Ἀπυρεξία. But *Cheſneau* having mark'd 'em after a peculiar Manner, I ſhall take the ſame Liberty with all of them; which will ſpare me ſome Words:

A Quotidian iij.	*A Quintan* iiiij.
A Tertian iij.	*A Sextan* iiiiij.
A Quartan iiij.	*A Novan* iiiiiiij.

A Double Tertian $\frac{\text{iiiij.}}{\text{iiiij.}}$ *then* | *A Doub. Quintan* iiiiiiiij.

A *Semitertian* is compounded of a *Quotidian Continual* and an *Intermitting Tertian:* So that one Day they have Vomitings, *&c.* The next Day, (or your *Well-day*, as it is commonly term'd,) they only have the ſimple Fever.

A *Baſtard Tertian* is only a Protraction of the Fits.

I'm afraid I have by this Time ſufficiently tir'd my Reader, and ſhall only add, That having rang'd the Prognoſticks of all Diſeaſes into ſuch a particular Order, that they can't eaſily be diſmember'd; I muſt crave the Reader's Patience till my Leiſure allows me to publiſh that Piece.

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